

Sheboygan River and Harbor Superfund Site

Baseline Upper and Lower River Fish Monitoring Report

June 2009

Prepared for
United States Environmental Protection Agency
Region 5
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1.0 Introduction

Monitoring of post-remedial fish tissue concentrations of polychlorinated biphenyls (PCBs) is being conducted on the Sheboygan River in accordance with the *Post-Remediation Monitoring Plan* (PMP). As stated in the PMP, the monitoring is being conducted in three phases consisting of the following:

- Baseline monitoring after remediation of the Upper River and prior to remediation of the Lower River reaches to determine the mean PCB concentration of each fish species of interest and establish a comparison point for future sampling,¹
- Phase 1 annual monitoring following remediation of each reach to determine if the PCB
 concentration of each fish species is changing compared to the baseline and track the
 progress of the fish in meeting the remedial goals, and
- Phase 2 conformational sampling to verify the fish have reached the remedial goals.

This Baseline Upper and Lower River Fish Monitoring Report documents the post-remediation monitoring performed in 2008, specifically the collection of fish to establish baseline concentrations of several different fish species downstream of the portion of the river known as the Upper River. Baseline fish monitoring for the Upper River is considered the first annual sampling event following remediation documenting post-remedial conditions.

The data obtained during the baseline fish sampling will allow post-remedial fish tissue concentrations to be compared to baseline results to monitor remedial progress. Fish tissue results in the Upper River will be compared to the baseline fish monitoring performed in the first annual sampling event post-remediation, and the 2002 Interim Monitoring Program (IMP) Report. Fish tissue results in the Lower River reaches will be compared to the baseline fish monitoring performed prior to remediation.

In accordance with the *Upper River Statement of Work* (URSOW), post-remedial monitoring will occur until fish consumption advisories for the Upper River based on PCBs are lifted by the Wisconsin Department of Health, fish fillet concentrations of PCBs decrease to the target levels specified on page 32 of the *Record of Decision* (ROD), or for 30 years, whichever comes first.

¹ The Upper River has already been remediated. The first annual event will be used as the baseline event.

1.1 Site Description

The Sheboygan River and Harbor Superfund Site (the Site) is located on the western shore of Lake Michigan approximately fifty-five miles north of Milwaukee, Wisconsin, in Sheboygan County (Figure 1). The Site includes the former Tecumseh Manufacturing site and the lower fourteen miles of the Sheboygan River from the Sheboygan Falls Dam downstream to, and including, the Inner Harbor. This segment of the river flows west to east through the cities of Sheboygan Falls, Kohler, and Sheboygan before entering Lake Michigan.

During the Remedial Investigations (RI), the river was segmented in separate sections, known as reaches, based on physical characteristics such as average depth, width, and level of polychlorinated biphenyl (PCB) sediment contamination. The Upper River extends from the Sheboygan Falls Dam downstream four miles to the Waelderhaus Dam in Kohler. The Middle River extends seven miles from the Waelderhaus Dam to the former Chicago & Northwestern (C&NW) railroad bridge. The Lower River extends three miles from the C&NW railroad bridge to the Pennsylvania Avenue Bridge in downtown Sheboygan. The Inner Harbor includes the Sheboygan River from the Pennsylvania Avenue Bridge to the river's outlet to the Outer Harbor. The Outer Harbor is defined as the area formed by the two break walls. Figure 2 provides an overview of each river reach.

Remedial Design (RD) and Remedial Action (RA) work at the Site has been phased in order to achieve proper source control prior to beginning down river work. Phase I RA work for the Upper River, which included the Tecumseh plant soils, groundwater, and adjoining riverbank soils was completed in 2004. Phase II RA work for the Upper River included addressing the Near-Shore Sediments, Armored Areas, and Soft Sediment deposits was completed in 2007. The Upper River floodplains have not been addressed due to access limitations. Remedial work in the Lower River has not been implemented.

1.2 Site History

The following information was obtained from the ROD. The Sheboygan Harbor was constructed at the mouth of the Sheboygan River in the early 1920's. In 1954, the lower Sheboygan River, namely the channel upstream of the 8th Street Bridge, was added as a part of the United States Army Corps of Engineers (USACE) maintenance dredging. Between 1956 and 1969, a total of 404,000 cubic yards of sediment were removed downstream of the 8th Street bridge between 1956 and 1969. The portion of the river above the 8th Street Bridge has not been dredged since 1956.

² The Near-Shore sediments are defined as sediment segments that may be found in the bank or river bed adjacent to the shoreline of the former Tecumseh plant, along the north side of the Sheboygan River as described in the External Source Assessment (ESA). Armored Areas were portions of the river bed that had been covered with a geotextile fabric, a one-foot layer of run-of-bank material, another layer of geotextile fabric, gabions (cages filled with larger stone pieces or cobbles) along the sediment periphery, and cobbles to fill in any gaps between the gabions and atop the fabric (i.e. armoring) to stabilize the river bed and prevent a release of contaminated sediments into the river. Soft Sediments are defined as the sediment found on the river bed as a result of the river deposited suspended material where sediment was measured greater than 1 foot thick during the 2004 pre-design investigation.

Prior to 1969, the USACE disposed of the sediment from the Harbor in an authorized deep water disposal area in Lake Michigan. However, there has been no dredging in the Sheboygan Harbor since the United States Environmental Protection Agency (USEPA) and Wisconsin Department of Natural Resources (WDNR) determined that the sediment was unsuitable for open-water disposal. Sediment sampling and analysis performed by the USACE in 1979 detected what was reported as moderate to high levels of lead, zinc, PCBs, and chromium. According to the ROD, the USACE last dredged the Harbor mouth in 1991 however; in 1982 a policy to discontinue maintenance dredging was promulgated due to the discovery of PCBs in the sediments.

In June 1979, the USACE collected 11 cores from the Harbor area ranging in depth from 1.5 to 9 feet. The analytical results revealed greater PCB and metal levels in the sediment of the Inner Harbor than in sediment of the Outer Harbor. In October 1979, the USACE collected a second round of 21 cores. The analytical results indicated an increase in PCB concentrations with the distance upstream from the Harbor and with the depth of sediment.

Examination of 98 sediment profile samples collected by the USACE in December, 1982 from the Harbor indicated the presence of PCBs in the surface sediment of the Harbor. The possibility that this sediment may be classified as regulated material was reason for discontinuing maintenance dredging.

Tecumseh Products Company (Tecumseh) was located adjacent to the Sheboygan River in Sheboygan Falls and operated from 1966 to 2003. Tecumseh was considered a Potentially Responsible Party (PRP) when PCBs were discovered in coolant fluids disposed to sewer lines that discharged to the Upper River reach of the Sheboygan River. The contamination level was high in the sediment adjacent to the Tecumseh Plant, but decreased in concentration downstream. Tecumseh discontinued use of PCB impregnated coolant fluids in the early 1970's.

In 1978, the WDNR conducted a survey and found numerous industries that discharged contaminants to the Sheboygan River. Some had levels of PCBs discharged to the river and others had heavy metals in their discharge. In 1985, the outfall from Thomas Industries, located along the Inner Harbor, contained PCBs when analyzed by the WDNR on two different dates. A sample collected on June 13, 1975, from the storm sewer outfall had a concentration of 125 parts per billion (ppb) PCBs. A second sample collected on August 19, 1975, had a PCB concentration of 88 ppb. The Kohler Company, downstream of Sheboygan Falls and adjacent to the Middle River, was found to have heavy metal discharges to the river above the permit limits in the 1970s. In addition, the Kohler Landfill Superfund Site is located on the banks of the river.

The USEPA placed the Sheboygan River and Harbor Site on the National Priorities List (NPL) in 1986. Remedial work performed since that time includes source removal at the former Tecumseh property and removal of 94.1% of the impacted sediment in the Upper River. This work was completed in 2007.

1.3 River Characteristics

1.3.1 Upper River

The Upper River consists of discrete Soft Sediment deposits and non-Soft Sediment areas which include a mix of Soft Sediment, rocks, cobbles, and bare river bottom. The sediment contamination in the Upper River acts as a partial source of PCB-contaminated sediment for the rest of the river system during high river conditions in addition to the other sources identified in the Middle River, Lower River, and Inner Harbor. PCB sampling results in 1989 and 1990 showed concentrations from 1.4 to 4,500 ppm. PCB-contaminated sediment was removed near the former Tecumseh facility in 1990 and 1991. Subsequent sampling of the same area showed concentrations ranging from non-detect to as high as 840 ppm. The concentrations of PCBs in the sediment vary due to the dynamic nature of this river reach.

During the 2006/2007 seasons, sediment was removed from nine (9) Armored Area Remedial Management Units (RMUs) and 122 Soft Sediment RMUs. The Soft Sediment RMUs and Armored Areas removed in 2006/2007 contained the majority of the PCB mass within the Upper River. The Upper River remedial action conducted in 2006 and 2007 removed 20,728 cubic yards of sediment and 552 pounds of PCBs for a total mass removal percentage of 94.1% exceeding the PCB mass reduction objective of 88%. The Upper River SWAC was reduced from 5.2 ppm to 1.96 ppm and based on the mass removed, should reach a SWAC of 0.5 ppm over time.

1.3.2 Middle River

The Middle River consists of Soft and non-Soft Sediment areas similar to the Upper River, but due to the hydrodynamics of this reach, the areas of Soft Sediment are shallower and more widely scattered. The Waelderhaus dam, which marks the end of the Upper River, prevents most of the Upper River sediments from migrating downstream. As such, the Middle River sediments act as the primary source of PCB-contamination for the rest of the Lower River system. Information collected during the Remedial Investigation (RI) indicated PCB concentrations ranging from non-detect to 8.8 parts per million (ppm). WDNR sediment trap data, between 1990 and 1996, showed PCB concentrations ranging from 1.4 to 3.0 ppm. Samples obtained by the WDNR in 1997 indicated PCB concentrations ranging from 0.6 ppm to 37 ppm. Like the Upper River, sediment in the Middle River is likely to vary due to the dynamic nature of this river reach.

1.3.3 Lower River

The flow rate in the Lower River decreases leading to a more continuous layer of Soft Sediment throughout the reach. Based on the hydrodynamics of this reach, the Lower River is where much of the sediment released in the Middle River is deposited. During the RI, sample results showed PCB concentrations as high as 67 ppm adjacent to the WPSC Camp Marina MGP site, a site undergoing investigation and remediation under the oversight of the USEPA. WDNR sediment trap data, from 1994 to 1996, showed PCB concentrations ranging from 1.9 to 4.2 ppm.

1.3.4 Inner Harbor

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The Inner Harbor is generally the river reach where upstream Soft Sediment is deposited. However, while the Inner Harbor is generally depositional, deposition occurs primarily between the 8th Street Bridge and the harbor mouth. The area between the Pennsylvania Bridge and 8th Street Bridge has little deposition and shows evidence of scour. RI sampling indicated PCB concentrations as high as 220 ppm in the Inner Harbor; however these levels were detected in 1979 and exist many feet below the surface. Surface (0-6 inches) sampling conducted in 1987 showed PCB results ranging from 0.17 to 5.8 ppm. Surface (0-6 inches) sampling conducted in 1999 showed PCB results ranging from 0.38 to 5.3 ppm. As a general rule, PCB concentrations increase with depth between the 8th Street bridge and harbor mouth. This is not the case for certain areas between the Pennsylvania Bridge and 8th Street Bridge.

1.4 Summary of Previous Fish Species Evaluation

This section is provided to demonstrate how sediment cleanup goals were established. The consumption of the fish is the primary exposure route for human receptors of the PCBs in the river sediments. The PCBs in the river sediments bioaccumulate in the fish from contact with impacted sediment, surface water, or by ingesting prey that are impacted. An understanding of the process in developing the sediment PCB cleanup goals based on allowable fish PCB concentrations is important in the evaluation of long-term assessment of remedial success.

There is considerable seasonal fishing in the Middle River, Lower River, and Inner Harbor.³ Fishing is more limited in the Upper River. According to WDNR surveys, most fishing occurs during spring and fall salmon and trout runs. Resident fish taken from the Sheboygan River, between the Sheboygan Falls dam and the mouth of the river, fall into the "do not eat" consumption advisory category. Migrating trout and salmon are subject to Lake Michigan advisories as they obtain most of their PCB body burden from Lake Michigan. One objective of the sediment removal is to reduce the concentrations of PCBs in the fish over time so all the consumption advisories are lifted.

The physical setting of the Site provides several possible pathways of exposure to the contamination in the sediment: dermal contact, ingestion of contaminated surface water or sediment, and consumption of fish contaminated by sediment. The sediments are contaminated with PCBs, hydrophobic organic compounds that will strongly prefer to partition to organic material. It is assumed that the most significant exposure is from contaminated sediment, where virtually all PCBs reside, and not the surface water. In general, there is likely to be only limited direct contact with the sediment itself (i.e., dermal and/or ingestion pathway). Many studies have found that bioaccumulation of hydrophobic organic sediment contaminants is the critical and dominant fate of these compounds in the environment. As such, the human health analysis assumed that for this Site, the pathway presenting the majority of the risk and likely to yield the most protective assessment of risks is consumption of contaminated fish and not dermal contact. This does not imply that no other exposure pathways are occurring at this site, only that there is a focus on the pathway which contributes the majority of risk, the fish ingestion pathway.

³ Much of the information presented in this section was obtained from the ROD.

Tecumseh collected fish tissue samples between 1990 and 1998 that showed smallmouth bass and white sucker PCB concentrations ranging from 1.3 ppm to 23.1 ppm. Carp had PCB levels ranging from 10.5 to 200 ppm. In general, the highest fish tissue PCB concentrations were found nearest the Tecumseh plant and tended to decrease downstream. The most recent studies by WDNR found that carp and smallmouth bass had the following mean concentrations, respectively:⁴

•	Upper River	16.43 and 0.44 ppm
•	Middle River	12.5 and 2.73 ppm
•	Lower River	2.32 and 1.35 ppm, and
•	Inner Harbor	1.45 and 2.0 ppm.

An Interim Monitoring Program (IMP) was performed by Blasland, Bouck, and Lee, Inc. (BBL) that consisted of the collection of smallmouth bass and white suckers at Rochester Park in the Upper River reach and between the dams in the Upper River reach.⁵ During the baseline and subsequent post-remedial monitoring, these areas are known as Upper River 1 and Upper River 2 Sites. These fish were also collected near Kiwanis Park or in the Lower River reach. The range of smallmouth bass PCB concentrations detected is as follows:

•	Upper River 1	2.1 to 10.3 ppm
•	Upper River 2	1.1 to 7.3 ppm, and
•	Lower River	0.82 to 3.7 ppm.

The PCB concentration decreased between 1990 and 2002 as seen in Charts 2 and 3 of Appendix 3. The results for smallmouth bass in the Upper River Site 1 show a general decreasing trend and the regression shows a decrease with a moderate correlation. For Upper River Site 2, the decrease has a very strong correlation for the regression. The range of white sucker concentrations detected is as follows:

•	Upper River 1	2.7 to 18.3 ppm
•	Upper River 2	1.9 to 8.7 ppm, and
•	Lower River	1.4 to 3.9 ppm.

These PCB concentrations also decreased between 1990 and 2002 based on a comparison of the 2002 result to the 1990 result. While a regression of all the data between this period indicates a slight increase, the correlation is very weak (Chart 4, Appendix 3).

In 1996, the United States Environmental Protection Agency (USEPA) performed a baseline risk assessment for the Site, relying on data available from WDNR on fish tissue concentrations from 1994. The USEPA assessed sport fishing and subsistence fishing. The sport fishing scenario

⁴ Most recent WNDR data available was used. This ranged from 1990 (Inner Harbor) 2000 to 2004 (others), depending on species and reach.

⁵ Conducted in 1994, 1995, 1996, 1998, 1999, 2000, 2001, and 2002.

was developed to represent a mid-point or central tendency estimate of risk, and the subsistence fishing scenario was developed to represent an upper-bound estimate of risk. The sport fishing scenario variables were chosen to be reasonable, and not overly conservative in their assumptions. The USEPA used Great Lakes specific fish consumption information, available from an assessment of Michigan anglers. It was assumed that of the total amount of fish consumed; only half of the fish came from the Sheboygan River. This is accounted for in the fraction ingested term. For the upper-bound subsistence scenario, USEPA used a conservative estimate of all fish ingested coming from the Sheboygan River. Through this risk assessment, USEPA determined the following risks:

Average 1x10⁻⁴ to 1x10⁻⁵
 Subsistence 1x10⁻² to 1x10⁻⁴

In order to address unacceptable risks at the Site, USEPA calculated sediment cleanup goals, protective of human health. The USEPA made a conscious decision to model and be protective of the more contaminated resident fish species of smallmouth bass and carp at the Site. By selecting a cleanup goal protective of bass (or carp), the cleanup will be protective of the lesser contaminated species such as walleye, trout, salmon, and steelhead. This choice adds a layer of conservatism to allow for more fish consumption at the Site, especially of several non-resident species. Therefore, a cleanup based on resident species may allow for possibly more consumption of other types of fish that may occur as advisories are lifted.

To calculate a sediment cleanup goal or surface goal, target fish tissue levels were placed into a Biota to Sediment Accumulation Factor (BSAF) equation to estimate the sediment concentrations that would meet these fish targets. The term "surface goal" is more appropriate for sediment at the Sheboygan Site than the usual cleanup goal because what is calculated is a surface that the fish can be exposed to that will result in the target fish tissue levels. Looking at the Site, it's necessary to calculate what the residual concentration is after dredging certain levels, or what's left after taking out everything above a certain concentration. In the case of the Sheboygan Site, it's the target Surface Weighted Average Concentration, or SWAC, of the river after remediation.

The BSAF methodology is the same as used in the Ecological Risk Assessment and is similar to what was used in the Remedial Investigation/Feasibility Study (RI/FS), except USEPA risk assessments include total organic carbon (TOC) and lipids in the calculation. Note that BSAFs were only calculated for smallmouth bass and carp and not the lesser contaminated migratory species of salmon and steelhead, to provide protection for anglers who consume several different species of fish. BSAFs were calculated for smallmouth bass because of their prevalence in the river and for carp as an indicator of concentrations in fish with higher lipid levels.

The analysis begins by calculating a site-specific BSAF using PCBs in sediment, TOC, PCBs in fish, and lipid data. The site-specific BSAFs are derived from the following values: RI/FS total river bed SWAC, and NOAA Risk Assessment TOC, and 1994 fish data (from FIELDS database). However, because the data in the RI/FS were given as summary statistics, the USEPA could not derive its own sediment surface area weighted PCB that is normalized to TOC. This

term is necessary for the BSAF model. Therefore, the SWAC derived in the RI/FS is not useable in calculating a site-specific BSAF. Because the NOAA ecological risk assessment for the site also developed BSAFs, USEPA considered the NOAA BSAFs, and found that they were quite similar to the human health based BSAFs. Using the BSAFs, the USEPA determined the sediment cleanup goals as follows:

Sediment Cleanup Goal = (TOC x Conc. Fish) / (site specific BSAF x % lipid)

As can be seen, the sediment cleanup goal is entirely dependent on the accuracy of the BSAF. Therefore, the concentrations of PCBs in the fish may reach the target levels although the sediment contains more than the sediment cleanup goal. Conversely, the sediment cleanup goal may be reached before the fish actually reach the target levels. We have noted that prior to remediation; the PCB levels in the most recent fish collected in the Upper River as compared to the characterization sediment results have less PCBs than predicted by the BSAF. Therefore, the fish target levels may be reached before the sediment cleanup goals.

Target fish tissue levels corresponding to the SWAC Sediment Cleanup Goal include the following:

•	Smallmouth Bass	0.31 ppm (skin on fillet)
•	Walleye	0.63 ppm (skin on fillet)
•	Trout	0.09 ppm (skin on fillet) ⁶
•	Carp	2.58 ppm (skin on fillet)
•	Catfish	2.53 ppm (skin off fillet)

Using the BASF and these goals, the USEPA determined that the sediment cleanup goal SWAC is 0.5 ppm. The USEPA model predicts that once the SWAC reaches 0.5 ppm, the fish target levels will be met.⁷ However, as the sediment cleanup goal was determined by modeling, the fish could reach the goals before the SWAC is 0.5 ppm. Conversely, the SWAC could reach 0.5 ppm and the fish do not reach the goal.

⁶ This is a migratory fish species and most PCB burden is from Lake Michigan.

⁷ There could be a lag period as older fish may have PCB concentrations reflective of when the sediment was more impacted.

2.0 Sampling and Analysis

2.1 Summary of Baseline Sampling Plan

The baseline sampling and analysis of fish species was conducted consistent with the *Post Remedial Monitoring Plan* (PMP) and the *Quality Assurance Project Plan* (QAPP). These plans were conditionally approved with comment on August 13, 2008. The PMP, which was developed with assistance from WDNR and the USEPA, determined statistically the number of fish to collect in each reach as well as in two sites within both the Upper and Middle River reaches.

Smallmouth bass, carp, walleye, and catfish were selected as they have assigned target goals in the *Record of Decision* (ROD). According to the ROD, smallmouth bass and carp are the more contaminated resident fish species at the Site and the USEPA selected these fish to determine cleanup goals believing that if these fish met the goals, the lesser contaminated species such as walleye, trout, salmon, and steelhead would be protected. Therefore the monitoring included these fish as well as walleye and catfish. Walleye and smallmouth bass will also help evaluate risk reduction for sport fisherman while carp and catfish for sustenance fisherman.

Rock bass and longnose dace were added because catfish and walleye are rarely caught according to WDNR. Juvenile carp and white suckers were added at the suggestion of the WDNR. Initially, the draft PMP that was approved stated that "carp or white suckers" were to be caught. After realizing this may not lead to a statistically valid sample set, WDNR and Pollution Risk Services (PRS) decided that both should be collected and the final PMP was written accordingly. The following table outlines the final fish species collection requirements.

	Number of Samples Per River Reach					
Fish Species (size)	Upper (Site 1)	Upper (Site 2)	Middle (Site 1)	Middle (Site 2)	Lower	Inner Harbor
Smallmouth Bass (10-17")	8	8	8	8	8	8
Adult Carp (15-25")	16	16	8	8	8	8
Juvenile Carp (3-8")	16	16	8	8	8	8
Adult Suckers (8-16")	8	8	8	8	8	8
Juvenile Suckers (3-8")	8	. 8	8	8	8	8
Rock Bass (5-9")	8	8	8	8	9	9
Longnose Dace (1-4")	8	8	8	8	8	8
Walleye (12-22")	8	8	8	8	9	9
Catfish (12-22")	8	8	8	8	8	8

The WDNR requested that the Upper and Middle River be divided into two sites per reach. The rational was stated as "Sampling stations should include the following number of sites per reach in order to represent the amount of contaminated sediment that will be removed and the variability expected. Specimens may be collected at different locations within a reach and collections sites within a reach can vary in exact location and length of river sampled (distance and location data should be reported in annual reports):"

As such, the collection included two sites in the Upper River – one from the former Tecumseh facility to River Bend reach and another from the Riverbend to Waelderhaus Dam in Kohler. For the Middle River, fish were collected from two sites within the reach: between the Waelderhaus dam and the Kohler landfill and downstream of the Kohler landfill to the C&NW Railroad Bridge.

The fish collection would target the habitats most conducive for each species. Table 1 presents a summary of the fish species, known habitat, and range. This information was primarily obtained from *Fishes in Wisconsin* (1983) and is intended to provide a summary of the characteristics of the target species and their typical habitat and is not intended to describe the habitats where the target species where encountered in the Sheboygan River. The habitats where fish were collected in 2008 are shown in Figures 3 through 6.

2.2 Baseline Procedures

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After receipt of the Scientific Collectors permit on August 19, 2008, collection began in the Upper River reach before generally proceeding in order to the Lower River, Inner Harbor, and finally, the Middle River reaches. Due to an inability to initially collect Longnose Dace and juvenile species, the Upper and Middle River reaches were revisited. The fish collection occurred between August 19, 2008, and September 17, 2008. Table 2 provides a summary of the daily fish collection. Figures 3 through 6 show the locations where fish were collected in each reach.

With one exception, all fish were collected using electro-fishing equipment. The electro-fishing equipment used to collect fish, a Smith Root, Inc. Model 2.5 GPP, was either a boat-mounted array set-up or a hand held wand, depending on the location and species to collect. Due to the inability to obtain longnose dace with this method, seining was employed for this species. Electro-fishing was performed by selecting the appropriate pulsed DC power setting to stun-fish. The appropriate DC pulse setting (30 or 60) was made based on what set-up was used (30 for the wand, 60 for the arrays). At that point the percentage of output power was adjusted from 0-100 to stun the fish size needed without stunning more fish than needed or killing the fish. This percentage was determined by trial and error. Current was then applied to the river water by closure of the operating switch (i.e. foot pedal) while the generator and control equipment were operative. Once fish were stunned, the fish were collected with dip nets. The fish collected in the dip nets were identified for targeted species, measured to confirm they met size requirement, and were either retained in a live well or on ice in an insulated cooler until collection was completed.

Both shore and quarter arc seining was performed to collect Longnose Dace (dace). To collect dace, a seine with dimensions and mesh size appropriate for the dace and collecting conditions was selected (20' long with 1/4" mesh). For shore seining, the seining was performed by maintaining the seine approximately perpendicular to a shoreline, with one end at or near the edge of the water and the other held out as far out from shore as practicable. The seine was pulled along the shore with both ends moving at about the same rate. At the end of the seine haul, the outer end was moved around to the shore, and the entire seine was pulled out of the water while maintaining the leadline on the bottom as practicable. The seine was pulled onto shore until the leadline was completely out of the water.

For quarter-arc seining, the seining was performed by holding one end of the seine in one place at or near the shoreline and first pulling the other end of the seine out into the water perpendicular to the shore. The water-end of the seine was moved down and back toward shore so that the outer end of the net moves approximately through a quarter of a circle. When the outer end of the net reaches shore, the entire seine was pulled out of the water while maintaining the leadline on the bottom as practicable. The seine was pulled onto shore until the leadline was completely out of the water.

All fish samples were processed and packaged in accordance with the procedures described in the WDNR's Division of Environmental Standards Field Procedures Manual in addition to the PMP. During and after collection, samples were held in a live well or on ice in an insulated cooler. Samples remained whole and ungutted. Each fish was numbered and the following recorded in field log book:

- Length,
- Species⁸,
- Sex (if possible),
- Age (if possible),
- Sample location,
- Other distinguishing features,
- Sampler(s), and
- Any unusual skin lesions, tumors, or other irregularities should also be noted.

The individual fish were wrapped in aluminum foil, then in freezer paper, and finally taped securely so that the package did not open during shipment. All samples were frozen as soon as possible after collection. No composite samples were created or analyzed.

For shipment to the laboratory, all fish samples were placed in a Ziploc bag or industrial grade trash bag, a label affixed and placed into second Ziploc bag, and then into a cooler with double bagged ice on the bottom of the cooler. The cooler was filled with fish samples, leaving enough room for double bagged ice on top of samples. A chain-of-custody form was placed in a sealable plastic bag and taped to the inside of cooler lid. The coolers were collected by the laboratory and as such custody seals were not used.

⁸ Species was determined by SOP #10, Fish Identification, and with assistance from CH2MHill.

The laboratory prepared and analyzed the samples in accordance with the analytical method USEPA SW846-8082 Modified and Laboratory Standard Operating Procedures (SOPs) developed in accordance with method 8082 including the following:

- GB-L-001, Rev .0 Tissue Preparation
- GB-L-003, Rev. 0 Lipids
- GB-O-031, Rev. 1 Extraction
- GB-O-034, Rev. 1 Sulfuric Acid Cleanup
- GB-O-036, Rev. 1 Florosil Cleanup
- GB-O-026, Rev. 2 PCB Analysis

The analysis to be performed on fish included total PCBs (Aroclor basis), percent lipids, and gender. The PCB method detection limit was 0.019 mg/kg.

QA/QC samples consisted of a matrix spike and matrix spike duplicate. A minimum of one matrix spike/matrix spike duplicate analysis was performed with every batch of fish being analyzed for PCBs. Batch size was limited to no more than 20 samples. For analysis of PCBs in tissues, the QA procedures in USEPA's Statement of Work for Organic Analysis (Feb 1988) was used, including laboratory blanks consistent with required detection limits, and initial and continuing calibration to verify recoveries.

2.3 Deviation from Plan

The only field deviation was not all targeted fish were collected. Table 3 provides a summary of the success of the collection process. It was anticipated that walleye or catfish would not be collected and as surrogates, rock bass and longnose dace were used. While we did not expect to catch any walleye or catfish, some were collected. Catfish were collected from the Middle, Lower and Inner Harbor River reaches. Walleye were collected from the Middle River and Inner Harbor reach.

No juvenile carp could be obtained. According to *Fishes of Wisconsin* (1983), carp typically spawn in late in May or early June and the incubation period is 3 to 16 days depending on temperature. Young carp grow very rapidly and by middle August have an average size of almost four inches and a range of 3 to 5 inches. Based on this growth rate, it may be difficult to catch juvenile carp in the 3 to 8 inches range specified in the PMP in late August and early September. Earlier fish collection of juvenile carp should be considered in the future.

For adult White Suckers, the target numbers were reached at both Upper River sites and one of the Middle River site. The target goal was only missed by one fish in Middle River 1 and the number collected was similar to WDNR efforts in 1999 and 2004. Failure to collect the target goal in the Lower River (2 of 8) and in the Inner Harbor (0 of 8) is attributed to lack of habitat. Very little areas with vegetation and warm shallows of estuaries and bays, the preferred habitat of white sucker, were observed in the Lower River and none were observed in the Inner Harbor (see Figures 5 and 6). Information on habitat was obtained from Fishes of Wisconsin (1983).

WDNR has also not had much success collecting this species in the Lower River or Inner Harbor reaches. Failure to collect the target goal of juvenile White Suckers is also attributed to lack of habitat in the Lower River and Inner Harbor.

Finally, the Sheboygan River does not appear to provide an abundance of quality habitat for Longnose Dace being too deep in many areas. However, there is some suitable habitat where shallows are present (i.e. Upper River, Site 1 and Middle River, Site 1 and 2). The water is too deep in the Lower River and Inner Harbor reaches to provide suitable habitat. It is also unsuitable in Site 2 of the Upper River reach. The baseline collection obtained 61% of the expected target goal. Based on the results as compared to habitat requirements, the goal of collecting certain fish in certain locations was optimistic at best. If the completion success is based on a target goal limited to the reaches conducive to dace, a 65% completion percentage was obtained. For the adult fish in the ROD that were expected to be caught, carp, suckers and smallmouth bass, the success rate is 76%.

The inability to collect the target number of fish for some of the species can increase the chances of a Type II error. That is, believing the fish tissue PCB results are less than the action level when they are not. Reducing the number of samples reduces the confidence in the decision. This is the baseline sampling event and this decision is not being made. As such, this error cannot occur.

There were no deviations from the laboratory method in order to analyze or report the fish tissue results.

3.0 Sampling Results

3.1 Fish Tissue Results

A summary of the results is provided in Appendix 1 while copies of the analytical reports are provided in Appendix 2 as a compact disc. Except for catfish, all fish samples that were analyzed were skin on fillets. Catfish samples analyzed were skin off fillets. A summary of the baseline statistics is provided in Table 4. The adult fish tissue PCB results tend to decrease moving from the Upper River to the Inner Harbor. An exception is that in almost every case, the PCB concentrations were higher in the Lower River reach than the Middle River 2 site. This would correspond to the increase in PCBs in the sediment in the Lower River and Inner Harbor due to the identified sources in these reaches. Chart 1 in Appendix 3 provides a graphical summary of the PCB concentrations of the adult fish that were most successfully collected across reaches demonstrating the decreasing trend from upstream to downstream

Adult carp tended to have the highest mean PCB concentrations of the fish species, due to being the most prevalent species collected. Although for the few caught, catfish had the highest mean concentration. These are bottom feeders and the results are not unexpected compared to the sport fish. As will be discussed in the following section, the results are higher than the most recent Interim Monitoring results. They are also higher than the older results from the Interim Monitoring Program. Adult carp had the highest mean concentration in the Upper River. However, in both sites of the Middle River, as well as the Lower River and Inner Harbor reaches, this was the only fish caught that many of the individual results were less than the ROD goal.

The age of the fish was determined by EA Engineering, Science, and Technology, Inc. who performs fish aging for the Fox River monitoring program and was recommended by Foth Infrastructure and Engineering LLC (Foth). All of the adult fish were of the age where they should have been sexually mature. None of the fish collected appeared to be of an age that exceeded the usual published longevity period. The majority of the fish collected were males.

3.2 Data Quality

The laboratory performs a validation of the analytical procedure using the quality control sample results, as applicable. This validation is discussed in the Narrative section of each of the 13 lab reports generated by this sampling and analysis event. The laboratory reported the following:

- All samples were extracted and analyzed within the allowable holding time,
- There were no problems with the initial or continuing calibrations,
- There were no problems with duplicate samples,
- All laboratory control spikes were within the allowable range, and
- PCBs were not detected in the method blanks.

There were problems with the surrogate recoveries in 36% of the samples. The problem was that the surrogates could not be evaluated against the control limits due to sample dilution. This should not affect the data as for the 64% that could be compared, there were no problems.

There were 9 occasions where the laboratory identified problems with the matrix spike (MS)/matrix spike duplicate (MSD) results. The purpose of MS and MSD is to identify method accuracy and precision. Matrix spikes are generated by the addition of a known amount of target analyte to a sub-sample. Unless the added target analyte is infused within a similar matrix, the ability of the matrix spike to represent method performance is limited; rather, matrix spikes often assist in the identification on chemical interferences inherent in the matrix. The efficiency of any method to dissolute an aqueous standard solution will always be significantly greater than a real world sample.

Five of the 9 samples had no recovery (0%) of the matrix spike or matrix spike duplicate for PCB 1242. None of these fish samples contained PCB 1242 and as such, this lack of recovery does not affect the data. The MS/MSD results in two of the samples actually fell within the control limits. However, the laboratory had to dilute the samples heavily making it difficult to discern the spike from the actual background PCB and identified this as a possible problem. In the other two samples, the MS/MSD recovery exceeded the control limit of 130%. Both samples had relatively high levels of PCBs which based on the MS/MSD results may be biased high. However, neither sample was identified as an outlier and both had PCB concentrations less than the mean for that reach. As such, it does not appear the results are biased high. None of the MS/MSD problems or potential problems appears to affect the data or conclusions drawn from the data.

Differences in the matrix between fish are more marked than in other environmental media such as soil or groundwater and could be due to the large differences in lipid content. However, according to the laboratory, the matrix spike problem is not attributed to this difference in lipid content. According to Mr. Ted Noltemeyer, Project Manager at PACE Analytical, "The analysis of fish is typically more of a challenge than waters and soils, but our methods and cleanups take care of that. The MS/MSD recoveries here are affected by the relatively high concentrations of PCBs in the samples, not by the matrix itself. Bottom line is most MS/MSD samples required dilutions which negated the ability to appropriately measure the spike recoveries."

4.0 Data Analysis

4.1 Summary Statistics

Summary statistics are provided with the data in Appendix 1 and in Table 4. The data distribution and upper 95% confidence levels (95% UCL) were calculated using ProUCL as requested by USEPA. ProUCL documentation is provided in Appendix 4. Consistent with historical results, the variability of the data was rather low and the majority of the data had a normal distribution. The distribution was calculated by ProUCL using a variety of goodness-of-fit methods including Shapiro-Wilk, and Kolmogorov-Smirnov tests. Knowledge of the distribution is needed to determine the proper methods for calculating 95% UCL as well as other statistical tests. Coefficient of variations ranged from 0.22 to 1.67 with an average of 0.59. The highest coefficient of variations were observed in adult carp with the largest variation observed from Middle River site 1 and the next largest variation at Upper River site 2.

Outliers are inevitable in data sets originating from environmental applications. Outliers are defined to be an observation that does not conform to the pattern established by other observations (Gilbert, 1987). Prior to calculating the UCL, ProUCL recommends an outlier analysis. In the case of the fish tissue data from the baseline monitoring, a few of the results appeared to be outliers because the concentrations was significantly greater than the mean for the same species within the same reach. As such, ProUCL was also used to evaluate the possibility of outliers. ProUCL uses both the Dixon and Rosner outlier tests and uses the Dixon test where the data sets are less than 25 samples. Using ProUCL, a total of six outliers was detected (Appendix 4). These outliers and the significance levels at which they were identified are summarized below.¹⁰

Location	Adult Carp	Adult Sucker	Dace	Catfish
Middle River 1	22.8 ppm @ 0.01	19.9 ppm @ 0.1	17.8 ppm @ 0.1	None
Lower River	44.9 ppm @ 0.05	None	None	28.4 ppm @ 0.1
Inner Harbor	9.14 ppm @ 0.1	None	None	None

The outlier analysis identified six samples that were not representative of the river reach. Reasons why these fish are not representative are discussed in the following. The two fish that represented the outliers in the Lower River reach were a carp and a catfish. They smallest fish within their species for the reach but had the highest levels of fat (lipids). As such, the length and weight variables can not explain the differences. The higher levels of lipids may be connected to the only other variable that could explain the difference, habitat. The carp outlier caught in the Lower River could be from the Upper River; its concentration of 17.8 mg/Kg is very close to the mean for the Upper River (25.9 mg/kg). The catfish outlier in the Lower River could also have been from the Middle River; site 2 offers suitable habitat for catfish. The Middle River habitat, where the shoreline is much less developed than the Lower River, may have produced a more abundant food supply leading to the large fat content. According to Fishes in Wisconsin, carp range extensively and are capable of jumping dams or falls. As such, it's not

⁹ Historical results were provided by the USEPA and WDNR. These included the BBL Interim Monitoring Program data and WDNR fish advisory studies. The data was provided in the *Post Remedial Monitoring Plan*.

¹⁰ The significance level is the risk of a false rejection.

unexpected that an Upper River carp would be found downstream. Catfish are also known to move great distances and the fish caught in the Lower River could have originated from Middle River.

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The PCB content of the adult carp collected in the Inner Harbor is more than 400% larger than the mean for the remainder of the species in this reach. The size and fat content were within the median of this species collected from this reach. As such, increases in PCB content cannot be attributed to these variables. The only other variable is habitat. The PCB result is very close to the mean results for this species in the Lower River.

The adult carp collected in the Middle River was older and larger than other fish of this species collected in this reach. It also had the second highest fat content. At six years old, it was 50% older than the other fish collected from the reach and near the end of its life span. This sample may not be representative adult carp in this reach because of its age. The adult sucker collected in this reach was the same age and size (weight, length, fat) as the other fish of this species collected in this reach. White suckers are also known to move about extensively. The longnose dace outlier had a PCB content (17.8 mg/Kg) that was much closer to those collected in the Upper River reach (mean 13.3 mg/Kg, maximum 17.6 mg/Kg) than those in the Middle River reach (mean 7.8 mg/Kg). While dace are not known to move much, there size would indicate the possibility of being washed over the dams from the Upper River during high river level events.

Based on this information, the outliers could be eliminated when calculating the summary statistics for the fish species within the reach. However, Region V USEPA requested that this not be done since fish from other reaches can migrate between reaches and represent possible exposure to humans via consumption. As the outliers would only be eliminated in the comparison of fish between sites, reaches, fish species and historical data but not in the covariant analysis, elimination of the outliers has no bearing on protection of human health. Elimination of the outliers allows a clearer understanding of differences between sites, reaches, fish species, and historical data. Regardless, the outliers were not eliminated from the statistical comparisons discussed.

Data analysis included an analysis of means using the t-test and analysis of variance (ANOVA). The t-test was performed based on unequal variance after an assessment indicated that was the most appropriate test. As far as the appropriateness of the test, PRS reviewed several publications such as A Guide for Selecting Statistical Techniques for Analyzing Social Science Data (The University of Michigan, 1981), Intuitive Biostatistics (Oxford University Press, 1995), Lake and Reservoir Bioassessment and Biocriteria Technical Guidance Document (USEPA, 1998) and Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (USEPA, 2007). All of these indicated the t-test was an appropriate method for the comparisons being performed. This was also the test proposed in the approved Lower Fox River Baseline Monitoring Plan.

Both tests can evaluate if there is a significant difference between data sets. ANOVA is actually a collection of statistical methods that can evaluate the conceptual classes of data variability, fixed effect, random effect, and mixed effect. The one-way ANOVA is used to test differences

in two or more independent groups. Since the t-test can be used for two groups, the one-way ANOVA is typically used for analysis of three groups. The ANOVA was used with the t-test as an additional test of differences based on a different approach to add a measure of robustness to the evaluation. The tests of differences were performed to evaluate the following:

- Differences in fish species PCB concentrations between sites in the Upper and Middle River reaches,
- Differences in fish species PCB concentrations between the river reaches,
- Difference of fish species PCB concentrations compared to all fish collected, and
- Difference with historical data

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No statistical analysis was performed to evaluate differences in PCB concentrations among males and females by reach. Typically, there were insufficient females collected to evaluate. In addition, differences due to age were not evaluated due to the variability of the ages. Neither sex nor adult age would appear to be a factor in decision making as anglers would not differentiate consumption patterns based on these factors.

Based on the redundancy of the t-test and the ANOVA tests, the Mann-Whitney test was used when the t-test and ANOVA results differed and box and whisker plots (boxplots) were also generated. This testing was done at the request of the USEPA. The Mann-Whitney test is a non-parametric test for assessing whether two independent samples of observations come from the same distribution. It is virtually identical to performing an ordinary parametric t-test on the data after ranking over the combined samples. The null hypothesis in the Mann-Whitney test is that the two samples are drawn from a single population, and therefore that their probability distributions are equal. It requires the two samples to be independent, and the observations to be ordinal or continuous measurements, i.e. one can at least say, of any two observations, which is the greater.

In descriptive statistics, a box-and-whisker is a convenient way of graphically depicting groups of numerical data through their five-number summaries (the smallest observation (sample minimum), lower quartile (Q1), median (Q2), upper quartile (Q3), and largest observation (sample maximum). Boxplots can be useful to display differences between populations without making any assumptions of the underlying statistical distribution: they are non-parametric. While the boxplots provide a convenient way of comparing data, they were not used for making decisions concerning the data.

Appendix 5 provides the results of the analysis. The t-test and ANOVA analyses were performed in Excel using equations obtained from *Practical Statistics for Analytical Chemists* (1987). The spreadsheets were validated using examples from the book. The analysis was only performed for the fish that were caught in sufficient quantities needed for each type of analysis. Juvenile fish were also not evaluated because of the infrequency of collection and the failure to collect these in the past.

Boxplots were generated using ProUCL then exported to Excel for formatting. The Mann-Whitney test was run using U-Test, a Southwestern Medical Center statistical software program.

The results were exported to Excel for formatting. Post-hoc tests were not performed. These tests are difficult to interpret and unless decisions and recommendations based on the statistical tests are accepted, unnecessary.

4.2 Comparison of Sites in a Reach

Fish monitoring in the Upper and Middle River reaches were divided into two sites at the request of the WDNR, in order to represent the amount of contaminated sediment removed and the variability expected. As can be seen in Table A5-1 (Appendix 5), there was no significant difference at the 95% level for fish species collected in the Upper River sites using the t-test. Table A5-2 confirmed this except for carp. As can be seen in Table A5-1, the calculated t-value for carp of 1.71 is very close to the critical value of 1.75 and as such, the ANOVA result is not surprising. The Mann-Whitney test confirmed the t-test (Table A5-3, Appendix 5) for carp indicating there was no significant difference between sites.

In the Middle River, both the t-test and the ANOVA indicated a significant difference for suckers and smallmouth bass. The statistical evaluation generally shows there is no difference in the PCB results for fish collected in the different sites of the Upper River reaches. For two out of the three fish species that were collected in sufficient numbers to perform the statistical comparison, there was a significant difference between sites with site 1 having much higher concentrations than site 2.

4.3 Comparison of Reaches

In addition to comparing the sites within the Upper and Middle River reaches, all reaches were compared. The t-test (Table A5-4) and ANOVA (Table A5-5) indicated the differences in fish PCB concentrations were significantly different between the Upper River and the Middle River reaches. Consistent with the sampling strategy of the Interim Monitoring Program which did not believe the Middle River and Lower River reaches were very different, the differences in PCB concentrations between the these two reaches were not significantly different. Consequently, the difference between the Upper River and Lower River would be significantly different between reaches. For the Lower River and Inner Harbor reaches, the t-test results indicate significant differences for smallmouth bass. The ANOVA and Whitney Mann tests did not indicate there were significant differences between the reaches for smallmouth bass. The Whitney-Mann test is documented in Table A5-6.

Two variables have been identified that would account for the differences between the Upper River and the Lower river reaches: the magnitude of sediment impact in each of these reaches and the Upper River reach was remediated while the others were not. However, the Inner Harbor has a high level of PCB sediment impact but the fish tissue concentrations are much lower than the Upper River reach (Table 4). Comparison of the fish tissue results in Section 4.4 will provide an evaluation of the differences observed between the Upper River and other reaches.

ProUCL generated boxplots comparing fish species across the reaches are provided in Appendix 5. The boxplots are consistent with Chart 1 showing a general reduction in PCB fish tissue concentration moving from upstream to downstream. The boxplots also identified outliers.

4.4 Comparison of Fish

The mean concentrations of each fish species was also compared to the mean concentrations of all fish, excluding the fish species under comparison. Based on the t-test (Table A5-7) the concentrations of white suckers, smallmouth bass, longnose dace, and walleye are not significantly different than the concentrations of all fish. However, the ANOVA (Table 5-8) test indicated there were differences for white suckers, smallmouth bass, and longnose dace. This could not be confirmed with the Mann-Whitney test (Table A5-9). The t-test and Mann-Whitney analyses indicate that the collection of either white suckers, smallmouth bass, or longnose dace alone could be used to evaluate the trend of fish concentrations following remediation. The data set for the walleye is not sufficiently large to be used however.

4.5 Comparison with Historical Data

Finally the data was compared to the historical data¹¹, where available (Tables A5-10 and A5-11). A non-statistical comparison of the means shows the mean concentrations were higher than the most recent historical result. The differences were most extreme in the Upper River sites, the only areas remediated. The smallmouth bass results and Upper River 2 white sucker were higher than the oldest of the Interim Monitoring results as can be seen in Charts 2 through 5 in Appendix 3.¹²

The t-test evaluation indicated that 5 of the 8 adult fish species evaluated had statistically different results in the Upper River sites. The ANOVA evaluation was similar though there was some disagreement as was there with the Mann-Whitney tests (Table A5-12). Based on the weight of evidence, it appears that the remediation of the Upper River caused an increase in the PCB concentrations in the fish. Prior to the fish collection, we anticipated that this may occur due to disturbance of the sediment causing increased suspension of sediment. The increase in biota concentrations following dredging was discussed in *Sediment Dredging at Superfund Megasites, Assessing the Effectiveness* (National Academy of Sciences, 2007). Cadmium levels in benthic invertebrates increased compared to pre-dredging levels for the first four years following dredging at the Marathon Battery site. A decrease was not noted until the fifth year. At the Black River site in Ohio, an increase in cancer was noted following dredging that was "probably due to the exposure of fish and their prey to higher concentrations of PAHs in sediment and water during dredging."

While the turbidity was not measured during baseline monitoring, the results of the Lower Fox River baseline monitoring showed a strong correlation between PCB levels in the water column and the total suspended solids (TSS). This is consistent with the National Academy of Sciences findings that dredging exposes biota to more PCBs in the sediment and water column. Dredging increases TSS, which contains PCBs, and increased water column PCB levels, thus increasing exposure to the fish.

¹¹ Historical results were provided by the USEPA and WDNR. These included the BBL Interim Monitoring Program data and WDNR fish advisory studies. The data was provided in the *Post Remedial Monitoring Plan*.

¹² The mean results were used.
13 Fish were not monitored.

The water column had the highest PCB levels during the fall sampling period in the Lower Fox River study. This would not account for the historical differences in the fish tissue results in the Sheboygan River since the Interim Monitoring program fish collection occurred during the fall.

The repercussion of an increase in fish tissue concentrations following dredging indicates a need for further analysis. The affects of the lipid content of the fish should be evaluated during the comparison. Similar to the Waukegan Superfund site as discussed in Sediment Dredging at Superfund Megasites, Assessing the Effectiveness, the historical comparison was repeated after normalizing the PCB fish tissue results with the percent lipid concentration (Tables A5-13 and A5-14 in Appendix 5). This analysis demonstrated the pre and post-dredging fish tissue concentrations were not much different when using the lipid normalized data. Using non-normalized data, 58% of the adult species in the reaches evaluated had statistically significant differences between pre and post-dredging PCB concentrations based on the Mann-Whitney, confirmed t-test or ANOVA test. Using lipid normalized data, 60% had a significant difference. Clearly, there was another variable besides lipid content controlling the pre and post-dredge PCB concentrations in fish tissues. This variable is apparently remediation.

4.6 PCB Correlation and Controlling Variables

4.6.1 Linear Regression

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During development of the PMP, WDNR had stated that percent lipids and length could be controlling variables for fish tissue PCB content excluding external variables such as TSS, river flow rates, river temperature, etc. The Lower Fox River baseline monitoring indicated there was contradictory information concerning TSS and temperature but that there is a strong correlation between TSS and water column PCB results. Therefore, there could be a correlation between fish tissue PCB content and water column PCB concentrations although we can not evaluate this as water column testing was not performed.

Simple (one-variable) linear regression was evaluated as a data analysis tool. Charts 6 and 7 in Appendix 3 provide the results for this evaluation. Most of the adult fish in the Upper River 1 site and random adult fish from other reaches were evaluated. The regression was not performed using log transformed data since the majority of the data had a normal distribution. Generally the evaluation showed there was a positive correlation between PCB concentrations and percent lipids, for the species evaluated. The highest correlation was for catfish and white suckers, bottom feeders. While these showed good correlation, the other species did not. The evaluation also showed a generally positive but poor correlation between PCB concentrations and length. However, three of the 8 evaluated had a negative correlation and one had basically no slope (Upper River 1 smallmouth bass). These results show one-variable linear regression provides little help analyzing the data and it will not be performed for the remainder of the fish and reaches.

4.6.2 Co-variant Analysis

WDNR had recommended during development of the Plan that co-variant analysis be used to assess both lipid content and length to better account for co-variance between these variables. In the fish tissue PCB post remedial monitoring program we will attempt to determine if PCB

concentrations change (on average) between sequential sampling events. In its simplest form we can think of describing the process as a model, where we attempt to "explain" fish tissue concentrations by the sampling event date. For example, if concentrations fall between sampling events 1 and 2, the sampling event date (as a factor in the model) has a decreasing effect on the fish tissue concentrations.

The variation found within a sampling event in this example is attributed to model error. If the within event model variation is large in comparison to the observed sampling event effect, we cannot conclude one way or the other that concentrations have changed. However, if we can further explain away the within event variation (thereby reducing the model error) it may still be possible to detect a concentration change. Adding covariates to the model attempts to do exactly that. By adding measurements of fish length and percent lipids as explanatory variables, we may reduce within event variation in the model so concentration changes over time are more easily detected.

This type of model is called a covariance model or analysis of covariance (ANCOVA). It is a mixture of regression analysis and analysis of variance (ANOVA) in that both qualitative and quantitative explanatory variables are utilized. The chief independent variables of interest are qualitative, with quantitative variables being introduced mainly to reduce the variance of the error terms.

This analysis will strengthen the statistical comparison of Phase 1 fish tissue results as compared to the baseline results. The analysis was performed by Foth and is documented in Appendix 7. A summary of the results is summarized in Table 5.

Foth concluded that lipids and/or length significantly affected fish tissue PCB concentrations in 17 of 27 data sets. Lipids had 100% more affect on PCB concentration than length. In fact, length showed an inverse affect on PCB concentration in several data sets. Both lipids and length contributed to PCB concentrations in 5 of 17 data sets. Lipid content affected PCB concentrations mostly in the two bass species and length most affected the carp. Foth concluded that inclusion of these variables into the analysis would reduce variability in the PCB concentrations. This will allow for a more powerful comparison of the Phase 1 fish monitoring results with the baseline results.

4.6.3 Adequacy of Fish-Tissue Samples

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The number of each fish species collected during baseline monitoring was determined by using a statistical procedure based on the coefficient of variation of the most recent historical data. If the baseline coefficient of variation is much higher than the historical variation, it could be possible that insufficient fish were collected for the baseline event to detect a 50% reduction in the fish tissue PCB concentrations. The results of the coefficient of variation comparison are summarized in Table 6. It includes the number of fish to be collected as determined in the Plan compared to the number that would be required based on the coefficient of variation from the baseline event. There is excellent agreement. In 8 of 32 (25%) of the comparisons, it indicates

¹⁴ Each data set represented one fish species in one site or reach.

the numbers in the plan were not sufficient. Two of these were for rock bass where only 1 additional fish was required. Based on the data available at the time the Plan was developed, a 75% agreement is excellent.

5.0 Phase 1 Monitoring

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The number of fish to collect for annual sampling is to be calculated by the same method as used for baseline sampling. With the exception of coefficient of variation, the input variables are the same. Please note, some fish were not collected in sufficient quantities to statistically determine the number of fish necessary for the first Phase 1 monitoring event. The same number of fish collected during the baseline event will be used for these fish.

When the number of fish to be collected as determined by the statistical method is less than 8, the number was increased to 8. That is, a minimum of 8 fish will be collected and analyzed. In addition, annual sampling will not collect more fish of a species than was obtained during baseline monitoring. Appendix 6 provides the calculations on the number of fish to collect during the first post remedial annual monitoring event while the following summarizes the results.

	Number of Samples Per River Reach						
Fish Species	Upper (Site 1)	Upper (Site 2)	Middle (Site 1)	Middle (Site 2)	Lower	Inner Harbor	
Smallmouth Bass	8	8	8	8	8	8	
Adult Carp	12	16	8	8	8	8	
Juvenile Carp	16	16	8	8	8	8	
Adult Suckers	8	8	8	8	8	8	
Juvenile Suckers	8	8	8	8	8	8	
Rock Bass	8	8	8	8	8	9	
Longnose Dace	8	8	8	8	8	8	
Walleye	8	8	8	8	9	8	
Catfish	8	8	8	- 8	8	8	

Only the Upper River reach has been remediated and as such, this reach will be the only portion of the river where post remedial monitoring will occur in 2009. Recommendations to revise the annual monitoring requirements, based on the statistical analysis, are made in Section 6.0. If these recommendations are not accepted, the number of each fish species discussed in this section will be collected in the Upper River reach in 2009 and during the first post remedial event in the other reaches.

6.0 Assessment and Recommendations

6.1 Sampling Frequency

Comparison of the Upper River results to the historical data shows that the remediation will cause an increase in the PCB concentrations in the fish. Since PCBs bioaccumulate, we should not expect to see a decrease in PCB concentrations in the adult species until they die out and are replaced with fish hatched since the remediation. This indicates that collection of adult fish immediately following remediation has little value and consideration should be given to revising our approach to annual monitoring. Expected fish life spans, based on *Fishes in Wisconsin* are as follows:

Adult Carp
 Adult White Suckers
 5 years

• Smallmouth Bass Not provided, 5 – 7 years 15

Rock Bass 6 − 8 years

Longnose Dace
 Not provided, 3 – 4 years

Walleye 6 – 7 years
 Channel Catfish 8 years

Similar to the earthworm monitoring in the floodplain where the earthworms are not collected following remediation until after the average life span of adult earthworm has passed, collection of adult fish in the years immediately following remediation should be postponed. A recommendation based on all of the assessments will be made at the end of this section.

6.2 Sample Locations

The data analysis indicated there was little variability between sites in the Upper River reach. However, the differences in remediation in the Upper River should be considered. A recommendation based on all of the assessments will be made at the end of this section.

6.3 Fish Species

The comparison of several adult fish species to all adult fish species indicated smallmouth bass, white suckers, longnose dace, and walleye could be used as indicator species when monitoring trends. White suckers, longnose dace, and walleye could not be collected in all reaches and as such, could not be used as indicators. However, smallmouth bass were successfully collected in all reaches and could be used as an indicator when monitoring trends. A recommendation based on all of the assessments will be made at the end of this section.

¹⁵ Where not provided in Fishes of Wisconsin, lifespan were obtained from various internet sources.

6.4 Fish Sample Numbers

The fish sample numbers specified in the Plan is appropriate and provides statistical confidence and power for decision making. No changes to the number of fish collected in the Phase 1 sampling event or the method of calculating the number of fish is recommended.

6.5 Summary of Assessment Recommendations

Based on the data analysis performed, PRS believes that resources would be better utilized if the Phase 1 monitoring was revised. Based on the lack of variability between the two sampling sites established in the Upper River reach, there is no reason to collect fish from both sites. However, the dams do divide the Upper River causing each site to be physically different (depth, flow, etc.). In addition, different PCB mass exist between these sites and the amount and extent of remediation varied. As such, PRS does not propose that the site concept be dropped.

Comparison of the fish concentrations in the Upper River to historical results demonstrate that remediation will cause an increase in PCB concentrations in adult fish tissue. Since PCBs bioaccumulate, there is no reason remediation will affect adult fish that were adults when remediation was performed. As such, PRS recommends that adult fish species not be collected following remediation until such time the adults have died. According to the available data, the average life span is 6.8 years and increases to 7.3 when dace are not considered. However, we propose to begin Phase 1 monitoring of the adult fish five years following remediation, coinciding with sediment sampling. To fulfill the requirements of the ROD which requires annual monitoring but does not specify which fish require monitoring, PRS recommends that adult smallmouth bass be collected annually during the first four years following remediation. Juvenile species of carp and white suckers would also continue to be collected annually following remediation.

PRS also proposes to collect all adult fish every 5 years when the sediment sampling is performed. In the years between sediment sampling, only smallmouth bass would be collected as their concentration is representative of all fish and are easily found through out the river. This would occur until such time that it appears that the adult species, as represented by annual smallmouth bass results or 5-year adult fish species results, indicates the PCB concentrations are reaching target levels. At that time, all adult fish species will be collected if the decision is being made on annual smallmouth data, to verify that Phase 2 confirmation monitoring can begin. If the 5-year data indicates Phase 2 monitoring can begin, no additional Phase 1 monitoring will be needed since the decision would be made based on all fish species.

In summary, PRS proposes the following as the post remedial fish monitoring:

 Collect adult smallmouth bass, juvenile carp, and juvenile white suckers annually following remediation for the first five years following remediation,

- Collect all adult and juvenile fish species listed in the this Plan during the first 5year sediment sampling event, and
- Collect adult smallmouth bass, juvenile carp, and juvenile white suckers annually following the first 5-year sediment sampling event and all adult and juvenile fish species listed in this plan during subsequent 5-year sediment sampling events until Phase 1 monitoring is completed, and

Based on this recommendation, PRS proposes to sample the following during the Phase 1 annual fish monitoring event, when applicable.

	Number of Samples Per River Reach						
Fish Species	Upper (Site 1)	Upper (Site 2)	Middle (Site 1)	Middle (Site 2)	Lower	Inner Harbor	
Smallmouth Bass	8	8	8	8	8	8	
Juvenile Carp	16	16	8	8	8	8	
Juvenile Suckers	8	8	8	8	8	8	

Phase 1 monitoring based on juvenile fish and adult small mouth bass will require that additional efforts be made to collect juvenile carp to establish baseline conditions. To ensure collection of juvenile carp, the collection of these fish should be performed earlier in the summer when there is a greater chance of encountering this species in the required size range. This baseline monitoring would be performed prior to remediation of the Lower River reaches and in 2009 for the Upper River reach.

7.0 References

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PACE Analytical, Ted Noltemeyer, Project Manager communication with Keith Egan of PRS via e-mail, May 12, 2009.

Tables

Table 1
Summary of Targeted Fish Species

Fish Cassian	Chamastanistia.	Habitat Targeted for Collection *		
Fish Species	Characteristics	Upper – Lower River	Inner Harbor	
Smallmouth bass	Occurs in all three drainage basins in Wisconsin. A non-migratory fish, they retreat to pools, undercut banks, or fairly deep water to avoid sunlight. Spawn in May through June when the water reaches 55-75°F. The average length of young-of year in Wisconsin is 2.7 inches by the end of September. The fish begin to reach sexual maturity at the ages of 3-4 depending on sex. The usual longevity is 5-7 years.	Area of little soft sediment. Sandy or gravel bottom best. Area of stumps or downed trees.		
Carp	Occurs in all drainage basins in Wisconsin. It is found in a wide variety of habitats but prefer warm turbid water. Spawn in April to August when the water reaches 65-75°F. The average length of young-of year in Wisconsin is 3.7 inches by the end of September. In Wisconsin, carp mature between the ages of 2 and 3 depending on the sex. The usual longevity is 9-15 years. They can have a fairly extensive range and can jump small dams.	Areas with vegetation		
White suckers	Occurs in all drainage basins in Wisconsin and is probably the most widespread of all fish in Wisconsin. It is found in warm shallows of estuaries and bays and can tolerate all stream gradients and a wide range of environmental conditions and pollution. Spawn in April to May when the water reaches about 45°F. The typical length of young-of year in Wisconsin is 2.6 inches by the end of September. The usual longevity is 5 years after maturing between the ages of 2 and 3. They move about extensively.	Areas with vegetation		
Rock Bass	Occurs in all three drainage basins in Wisconsin. It is found in clear water over a gravel or rocky bottom and is often found near breakwaters and stone-armored shorelines. Often found with other sunfish such as smallmouth bass. Spawn in spring when the water reaches 60-70°F. The average length of young-of year in Wisconsin is 1.7 inches by the end of September. They reach maturity between ages 2 and 3. The usual longevity is 6-8 years. They have a limited range.	Prefers clear, rocky, and vegetated stream pools.	Near structures offering protection. Bridge abutments docks, etc.	
Longnose Dace	Occurs in all drainage basins in Wisconsin. Occurs in riffles or torrential water over a bottom of boulder and gravel; it generally avoids pools and quiet runs. Spawn in late April to mid-June at an average water temperature of 63°F. The average length of young-of year in Wisconsin is 1.7 inches by the end of September. The usual longevity is 3-4 years after reaching maturity at age 2. No information on their range of migration was found.	Area of little soft sediment. Sandy, gravel or cobble bottom that have some vegetation for cover are best.		
Walleye	Present throughout Wisconsin. During the day, hovers in shadows of submerged objects or in shadows of deep water. At dusk, emerge to feed over shallow weed beds or rocky shoals. Spawn in mid-April to mid-May when water reaches 42-50°F. The average length of young-of year in Wisconsin is 3 inches by the end of July. Maturity occurs between the ages of 2 to 5 for males and 5 to 7 for females. The usual longevity is 6-7 years. They have a fairly extensive range and can jump small dams.	Area of little soft sediment. Sandy or gravel bottom best. Area of rough water.		
Catfish	Occurs in all three drainage basins in Wisconsin. It is found in a wide variety of habitats but prefer warm water. Spawn in May or June when the water reaches 75°F. The average length of young-of year catfish in Wisconsin is 3.4 inches by the end of September. Sexual maturity varies by body of water but it appears both sexes begin maturing by the age of 5. Few catfish live beyond 8 years. They can have a fairly extensive range.	Prefers some current and deep water with sand, gravel or rubble bottoms. Areas near bank overhangs or downed trees or stumps		

^{* -} General tips on fish locations: outside bends of river, downstream of rocks, area where fast water meets slower water, area of merging currents (streams, brooks, rivers et.) current edges, areas with overhanging trees or branches, drop offs, undercuts, below dams or falls, above springs, riparian zones

Table 2
Baseline Daily Fish Collection Summary

Date	River Reach	Adult Carp	Adult White Suckers	Juvenile White Suckers	Small Mouth Bass	Rock Bass	Longnose Dace	Walleye	Channel Catfish
8/18/2008	UR1	3	2		2				
8/19/2008	UR1	1	2	4	6	1			
8/20/2008	UR1			4		7			
8/21/2008	UR2	4	4	8	8	3			
8/22/2008	UR2					4			
8/25/2008	LR	2	2	1	8				4
8/26/2008	LR			3		9			
8/27/2008	IH	8			7			1	
9/2/2008	IH				1				1
9/3/2008	LR	6		1					
9/5/2008	IH							2	
9/6/2008	UR1	12	4						
9/6/2008	UR2	12	4			1			
9/8/2008	MR2		8	2	8	2			1
9/10/2008	MR2						8		
9/10/2008	MR1						4		
9/11/2008	MR1						2		
9/12/2008	UR1						4		
9/15/2008	MR2	1		5		6			3
9/16/2008	MR1	8	3		8			8	
9/17/2008	MR1		4			1			4
9/17/2008	UR1						2		
TOTAL		57	33	28	48	34	20	11	13

UR1 - Upper River from former Tecumseh Site to Riverbend Dam

UR2 - Upper River from Riverbend Dam to Waelderhaus Dam

MR1 - Middle River from Waelderhaus Dam to Kohler Landfill (County Road A Bridge)

MR2 - Middle River from Kohler Landfill (County Road A Bridge) to C&NW Railroad Bridge

LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge

IH - Inner Harbor from Pennsylvania Avenue Bridge to Coast Guard Station

Table 3
Baseline Fish Collection Summary

Species	UR1	UR1	UR2	UR2	MR1	MR1	MR2	MR2	LR	LR	TH	HI T
	Target	Collected										
Adult Carp	16	16	16	16	8	8	8	1	8	8	8	8
Juvenile Carp	16	0	16	0	8	0	8	0	8	0	8	0
Adult White Sucker	8	8	8	8	8	7	8	8	8	2	8	0
Juvenile White Sucker	8	8	8	8	8	0	8	7	8	5	8	0
Smallmouth Bass	8	8	8	8	8	8	8	8	8	8	8	8
Rock Bass	8	8	8	8	8	1	8	8	9	9	9	0
Longnose Dace	8	6	8	0	8	6	8	8	8	0	8	0
Walleye	8	0	8	0	8	8	8	0	9	0	9	3
Channel Catfish	8	0	8	0	8	4	8	4	8	4	8	1
Total	88	54	88	48	72	42	72	44	74	36	74	20

UR1 - Upper River from former Tecumseh Site to Riverbend Dam

UR2 – Upper River from Riverbend Dam to Waelderhaus Dam

MR1 - Middle River from Waelderhaus Dam to Kohler Landfill (County Road A Bridge)

MR2 - Middle River from Kohler Landfill (County Road A Bridge) to C&NW Railroad Bridge

LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge

IH - Inner Harbor from Pennsylvania Avenue Bridge to Coast Guard Station

Table 4	
Summary Statistic	cs

(₁)

Statistic16	UR1	UR2	MR 1	MR 2	LR	IH
		Adult Car				
Mean	25.9	14.7	4.44	N/A	11.3	3.16
Minimum	1.63	1.02	1.28	1.27	0.458	0.243
Maximum	73.1	47.7	22.8	1.27	44.9	9.14
Count	16	16	9	1	9	9
Standard Deviation	21.4	15.0	7.43	N/A	15.2	2.81
Coefficient of Variation	0.83	1.02	1.67	N/A	1.35	0.89
Distribution	Normal	Gamma	Non-Par	N/A	Lognormal	Normal
95% UCL	35.3	24.9	15.89	N/A	32.63	5.05
		ult White S				
Mean	12.4	8.92	8.77	3.96	4.31	N/A
Minimum	5.74	3.95	3.24	0.925	3.65	N/A
Maximum	20.6	16.6	19.9	6.98	4.96	N/A
Count	8	8	8	8	2	0
Standard Deviation	5.00	4.19	5.86	2.01	0.926	N/A
Coefficient of Variation	0.40	0.47	0.669	0.51	0.22	N/A
Distribution	Normal	Normal	Normal	Normal	N/A	N/A
95% UCL	15.8	11.7	13.07	5.31	N/A	N/A
	Juve	nile White	Sucker		•	
Mean	6.01	6.82	N/A	1.37	1.04	N/A
Minimum	1.99	3.73	N/A	0.980	0.587	N/A
Maximum	9.71	11.5	N/A	2.03	1.64	N/A
Count	8	8	0	7	5	0
Standard Deviation	2.85	2.96	N/A	0.389	0.427	N/A
Coefficient of Variation	0.47	0.43	N/A	0.28	0.41	N/A
Distribution	Normal	Normal	Normal	Normal	Normal	N/A
95% UCL	7.9	8.8	N/A	1.66	1.44	N/A
	Sn	nall Mouth	Bass			
Mean	13.0	14.5	8.75	4.30	5.77	3.36
Minimum	4.09	3.12	4.20	2.64	1.78	1.44
Maximum	22.2	33.5	18.2	7.65	10.90	4.43
Count	8	8	8	8	8	8
Standard Deviation	7.28	11.1	4.94	1.61	3.05	1.04
Coefficient of Variation	0.56	0.77	0.56	0.37	0.53	0.31
	Normal	Normal	Normal	Normal	Normal	Normal
95% UCL	17.8	22.0	12.1	5.38	7.8	4.06
		Rock Bas	S			
Mean	6.94	4.27	N/A	2.49	2.60	N/A
Minimum	1.22	0.739	2.79	1.42	1.40	N/A
Maximum	16.8	8.72	2.79	3.70	4.27	N/A
Count	8	8	1	8	9	0
Standard Deviation	5.01	2.94	N/A	0.790	1,11	N/A
Coefficient of Variation	0.72	0.69	N/A	0.32	0.43	N/A
Distribution	Normal	Normal	N/A	Normal	Normal	N/A
95% UCL	10.3	6.2	N/A	3.02	3.29	N/A

¹⁶ Units and other information provided on last page of table.

Table 4
Summary Statistics

Statistic ¹⁶	UR1	UR2	MR 1	MR 2	LR	IH
		ongnose L	Расе			
Mean	7.67	N/A	9.47	8.51	N/A	N/A
Minimum	1.72	N/A	7.08	4.86	N/A	N/A
Maximum	17.6	N/A	17.8	11.0	N/A	N/A
Count	6	0	7	8	0	0
Standard Deviation	6.85	N/A	4.15	2.25	N/A	N/A
Coefficient of Variation	0.89	N/A	0.44	0.26	N/A	N/A
Distribution	Normal	N/A	Non-Par	Normal	N/A	N/A
95% UCL	13.3	N/A	12.88	10.0	N/A	N/A
	C	hannel Ca	tfish			
Mean	N/A	N/A	27.9	8.18	13.7	N/A
Minimum	N/A	N/A	15.9	0.532	6.37	19.4
Maximum	N/A	N/A	49.2	16.6	28.4	19.4
Count	0	0	4	4	5	1
Standard Deviation	N/A	N/A	15.6	6.62	10	N/A
Coefficient of Variation	N/A	N/A	0.56	0.81	0.73	N/A
Distribution	N/A	N/A	N/A	N/A	N/A	N/A
95% UCL	N/A	N/A	43.2	14.7	25.1	N/A
		Walleye				
Mean	N/A	N/A	11.1	N/A	N/A	2.03
Minimum	N/A	N/A	5.58	N/A	N/A	1.36
Maximum	N/A	N/A	16.8	N/A	N/A	3.00
Count	0	0	8	0	0	3
Standard Deviation	N/A	N/A	4.63	N/A	N/A	0.857
Coefficient of Variation	N/A	N/A	0.42	N/A	N/A	0.42
Distribution	N/A	N/A	Normal	N/A	N/A	N/A
95% UCL	N/A	N/A	14.2	N/A	N/A	3.00

Mean, Minimum, Maximum, Standard Deviation and 95% UCL in mg/Kg.

Count is number of samples.

Non-Par - Non Parametric Distribution

N/A - Not Applicable, insufficient data

Table 5 Co-variable Analysis Results

Dooch	Chatiatia	Adult	Carp	Adult	Suckers	Juvenile	Suckers	Smallmo	outh Bass	Rock	Bass	Longno	se Dace	Wal	leye	Cat	tfish
Reach	Statistic	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids
	N	1	6		8		8		8		8	(5	()		0
	R ²	0.	39	0.	91	0.	02	0.	20	0.	53	0.	85				-
									-								
Upper River 1	Coefficient	0.195	4.59	-0.485	1083.66	-0.036	57.48	3.137	1911.86	-0.876	1344.79	1.503	8.67	-	-	-	-
	Standard Error	0.093	8.24	0.458	150.04	0.490	184.79	3.008	1690.26	1.548	870.67	0.507	19.21	-	-	- '	-
	p (2-tail)	0.056	0.587	0.338	0.001	0.944	0.768	0.345	0.309	0.596	0.183	0.059	0.682	-	-	-	-
	Model	Expor	nential	Lit	near	Expo	nential	Li	near	Lit	near	Expor	nential				-
	N	1	6		8		8		8		8	()	()		0
	R ²	0.	88	0.	69	0.	09	0.	59	0.	95						-
Upper River 2	Coefficient	1.925	341.85	-0.224	191.41	-0.072	-136.27	1.033	2442.65	-1.153	645.16	-	-	-	-	-	-
Opper Idver 2	Standard Error	0.517	55.57	0.096	57.33	0.180	291.98	2.564	910.63	0.514	146.26	-	-	-	-	-	-
	p (2-tail)	0.003	0.000	0.067	0.021	0.707	0.660	0.704	0.044	0.075	0.007	-	-	-	-	-	-
	Model	Lir	near	Expor	nential	Expor	nential	Lin	near	Lir	near		-				-
	N		8		7		0		8		1	(5	8	3		4
	R ²	0.	88	0.	37		-	0.	05		-	0.	77	0.9	96	0.	.96
Middle River 1	Coefficient	0.445	20.95	0.159	33.50	-	-	0.655	50.73	-	-	2.716	140.90	0.017	635.96	-1.850	436.13
Wilder River 1	Standard Error	0.123	18.07	0.131	96.16	-	-	1.731	481.56	-	-	1.428	89.31	0.399	165.11	3.011	102.35
	p (2-tail)	0.015	0.299	0.294	0.745	-	-	0.721	0.920	-	-	0.153	0.213	0.967	0.012	0.649	0.147
	Model	Expor	nential	Expor	nential		-	Lir	near		-	Lin	ear	Lin	ear	Lir	near
	N		1		8	•	7		8	1	3	8	3	()	4	4
	R ²		-	0.	53	0.	25	0.	37	0.	62	0.9	91			0.	.97
Middle River 2	Coefficient	-	-	0.615	265.92	-0.054	89.09	0.072	57.54	-0.299	102.52	0.238	12.56	-	-	3.040	-298.64
Middle Haver 2	Standard Error	-	-	0.680	134.30	0.155	79.19	0.056	37.53	0.297	48.80	0.068	3.23	-	-	0.491	100.24
	p (2-tail)	-	-	0.407	0.105	0.746	0.324	0.255	0.186	0.360	0.090	0.017	0.012	-	-	0.102	0.206
	Model		-	Lir	near	Expor	nential	Expor	nential	Lir	near	Expor	nential			Lin	near
	N	8	8	1	2	:	5		8	9	9	()	()	4	4
	R ²	0.	64		-	0.	93	0.	76	0.	67	-		-		0.	86
Lower River	Coefficient	-0.639	425.64	-	-	0.414	-145.70	-0.710	506.71	0.022	311.03	-	-	-	-	-0.508	499.45
Lowel River	Standard Error	1.341	144.76	-	-	0.083	75.92	0.635	125.95	0.392	89.06	-	-	-	-	4.001	400.02
	p (2-tail)	0.654	0.032	-	-	0.038	0.195	0.315	0.010	0.957	0.013	-	-	-	-	0.920	0.430
	Model	Lin	ear			Lin	ear	Lir	near	Lin	ear					Lin	near
	N	8	3	()	()		3	()	()	3	1		1
	R ²	0.0	64		-			0.	90					-			-
Inner Harbor	Coefficient	0.165	67.67	-	-	-	-	-0.533	196.02	-	-	-	-	-	-	-	-
milei Haibbi	Standard Error	0.133	23.19	-	-	-	-	0.081	43.76	-	-	-	-	-	-	-	-
Ī	p (2-tail)	0.269	0.033	-	-	-	-	0.001	0.007	-	-	-	-	-	-	-	-
1																	

Numbers in the table represent the statistic.

p<0.05 Significance level is below 0.05

0.05<p<0.1 Significance level is greater than 0.05 and less than 0.1

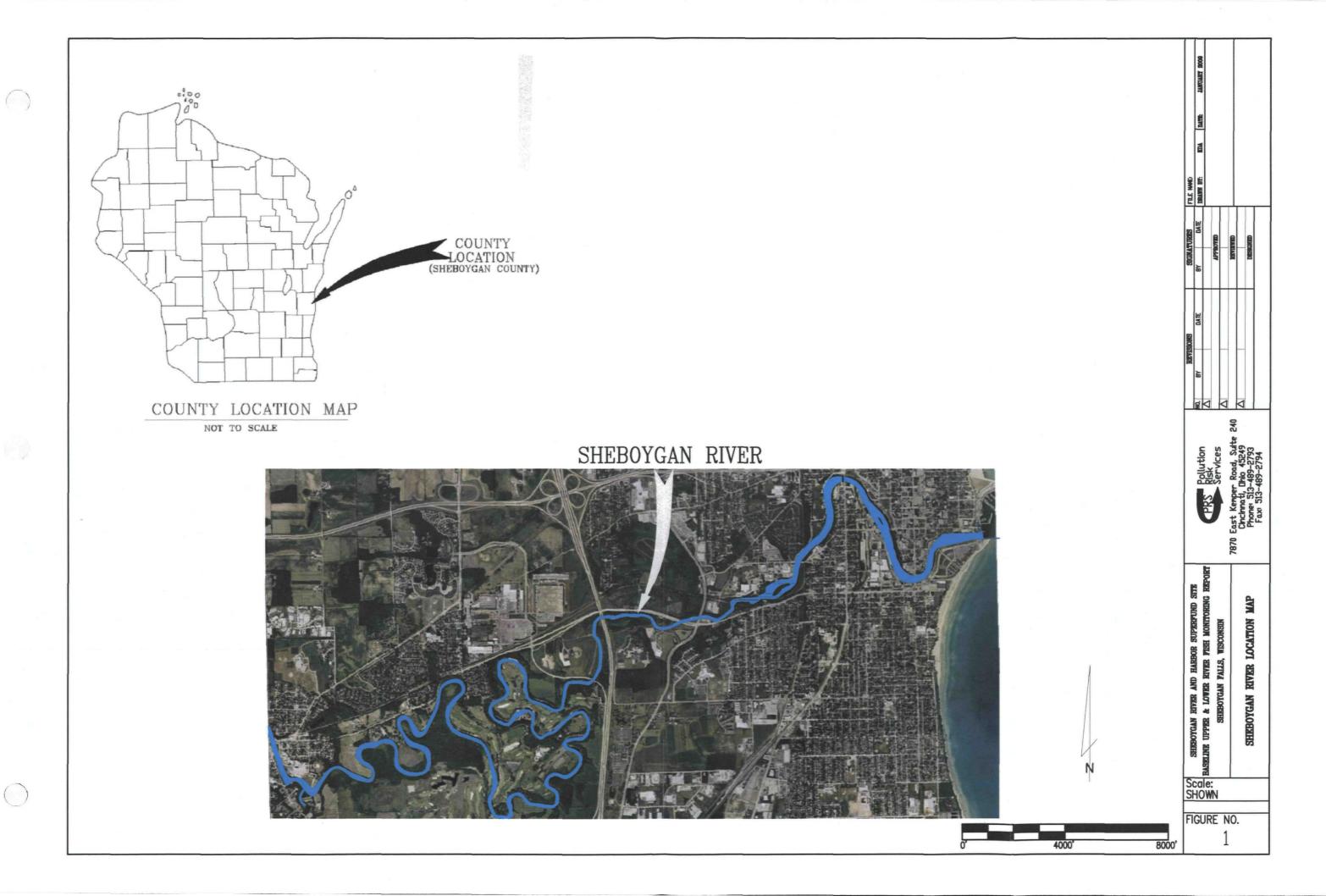
Note: p-Level indicates the probability of the coefficient being equal to zero. Lower values of p indicate higher probabilities that the factors of length or percent lipids significantly affect fish tissue PCB concentrations.

Table 6
Analysis of Number of Fish Sampling Requirements

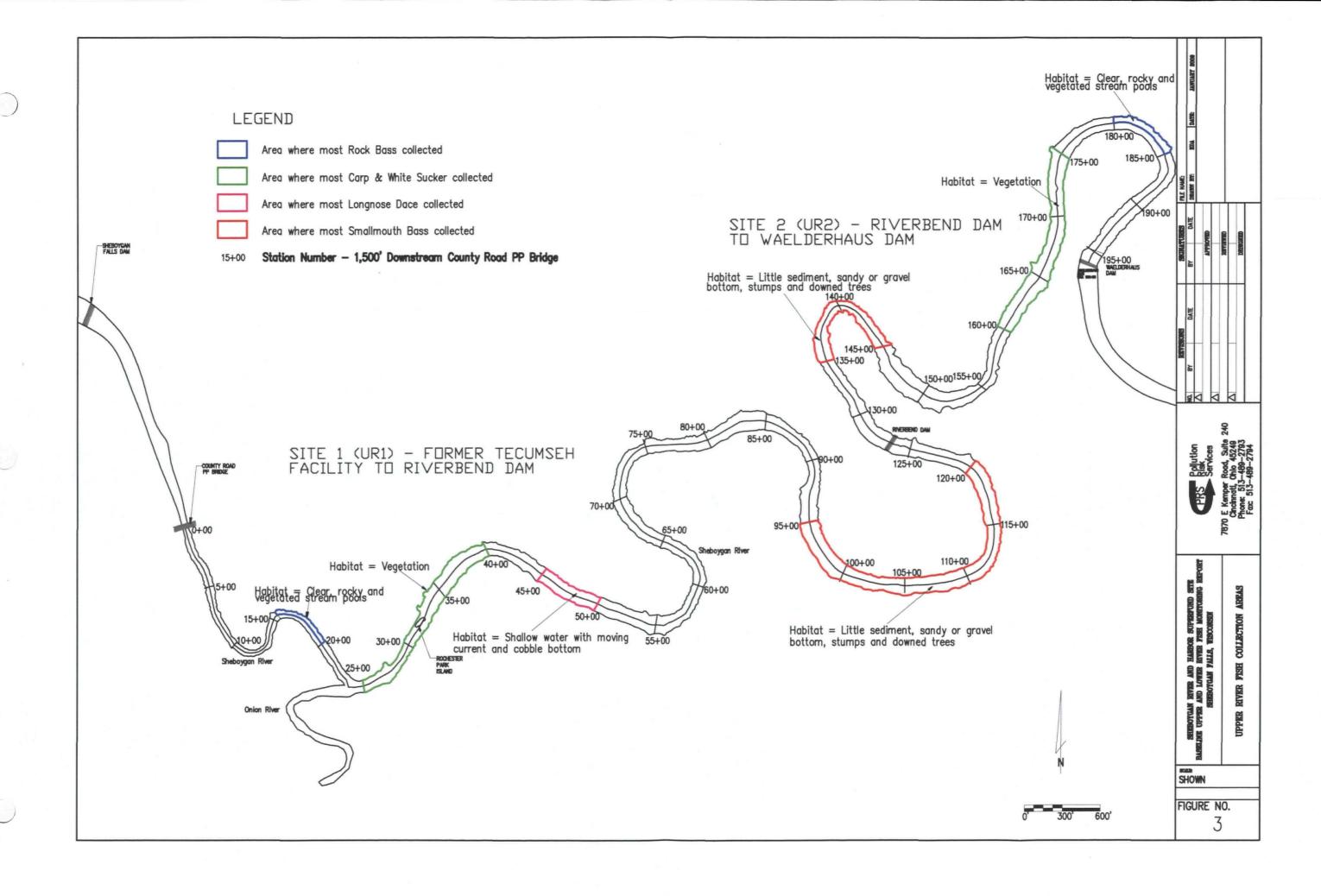
Location and Species	Coeffic Varia		Number of Fish Needed			
Upper River 1	Historical	Baseline	Historical C/V	Baseline C/V		
Smallmouth Bass	0.36	0.56	8	8		
Adult Carp	0.93	0.83	16	12		
Adult Suckers	0.36	0.40	8	8		
Juvenile Suckers	0.36	0.47	8	8		
Rock Bass	0.58	0.72	8	9		
Longnose Dace	0.08	0.89	8	14		
Upper River 2	<u> </u>		•			
Smallmouth Bass	0.36	0.77	8	11		
Adult Carp	0.93	1.02	16	19		
Adult Suckers	0.66	0.47	8	8		
Juvenile Suckers	0.66	0.43	8	8		
Rock Bass	0.58	0.69	8	9		
Middle River 1				• •		
Smallmouth Bass	0.36	0.56	8	8		
Adult Carp	0.66	1.67	8	50		
Adult Suckers	0.66	0.67	8	8		
Juvenile Suckers	0.66	0.47	8	8		
Longnose Dace	0.08	0.559	8	8		
Walleye	0.48	0.42	8	8		
Catfish	0.08	0.56	8	8		
Middle River 2						
Smallmouth Bass	0.36	0.37	8	8		
Adult Suckers	0.66	0.51	8	8		
Juvenile Suckers	0.66	0.28	8	8		
Rock Bass	0.25	0.32	8	8		
Lower River						
Smallmouth Bass	0.69	0.53	8	8		
Adult Carp	0.44	1.35	8	33		
Adult Suckers	0.44	0.22	8	8		
Juvenile Suckers	0.44	0.41	8	8		
Rock Bass	0.58	0.43	9	8		
Catfish	0.07	0.73	8	10		
Inner Harbor						
Smallmouth Bass	0.69	0.31	8	8		
Adult Carp	0.44	0.89	8	14		
Walleye	0.69	0.42	9	8		
			 			

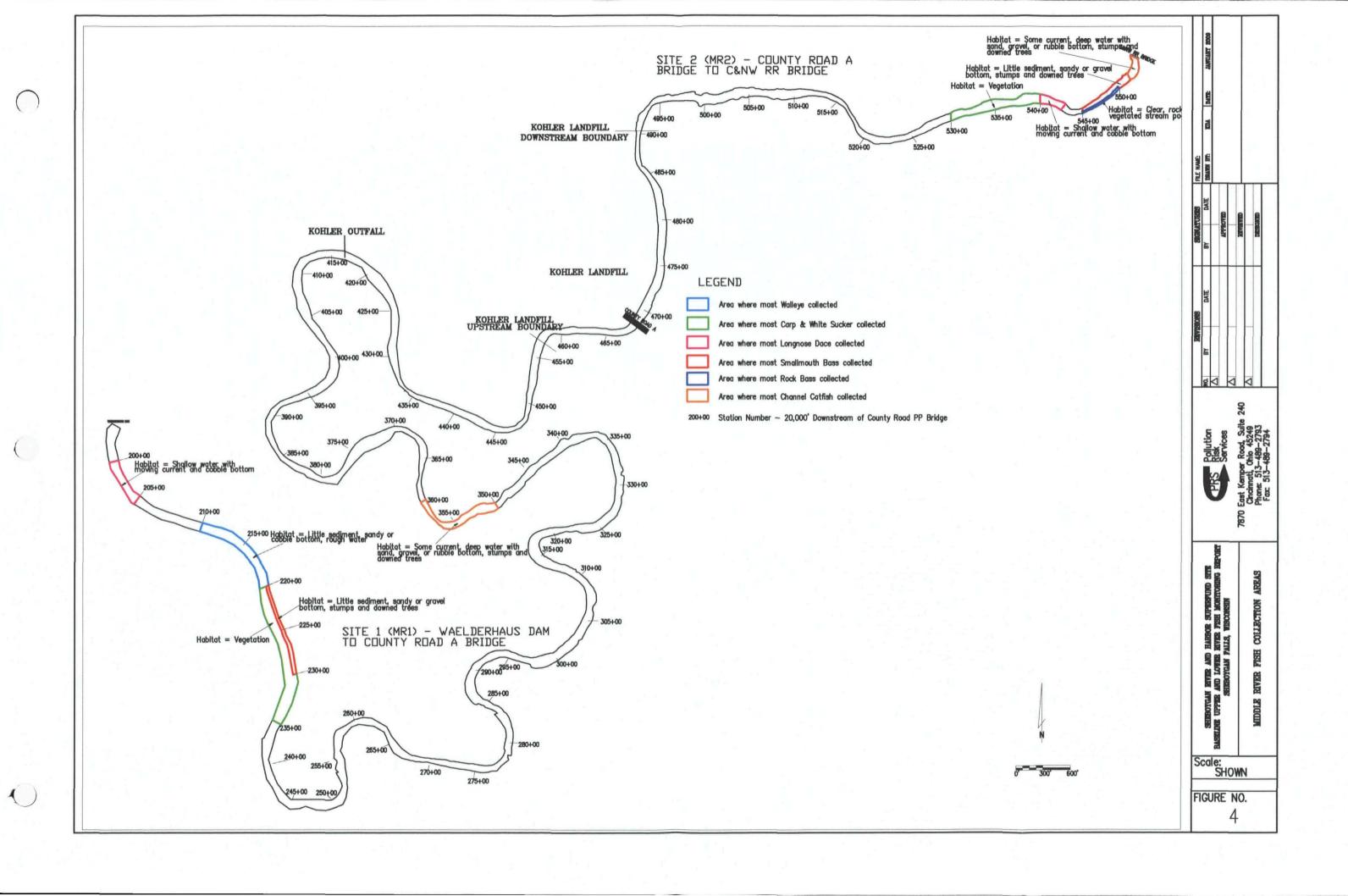
Comparison made only for fish where sufficient were caught to determine C/V.

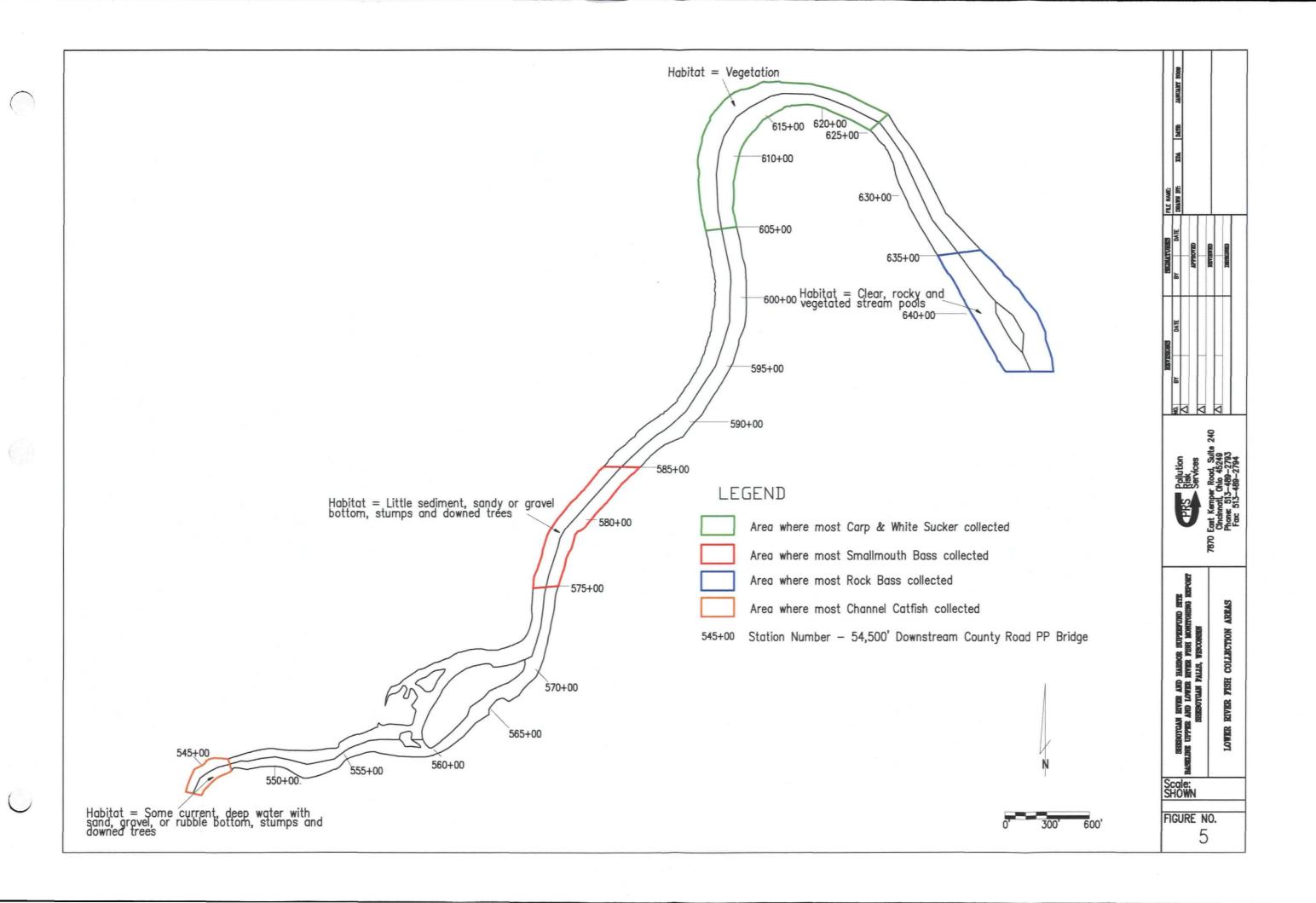
Figures

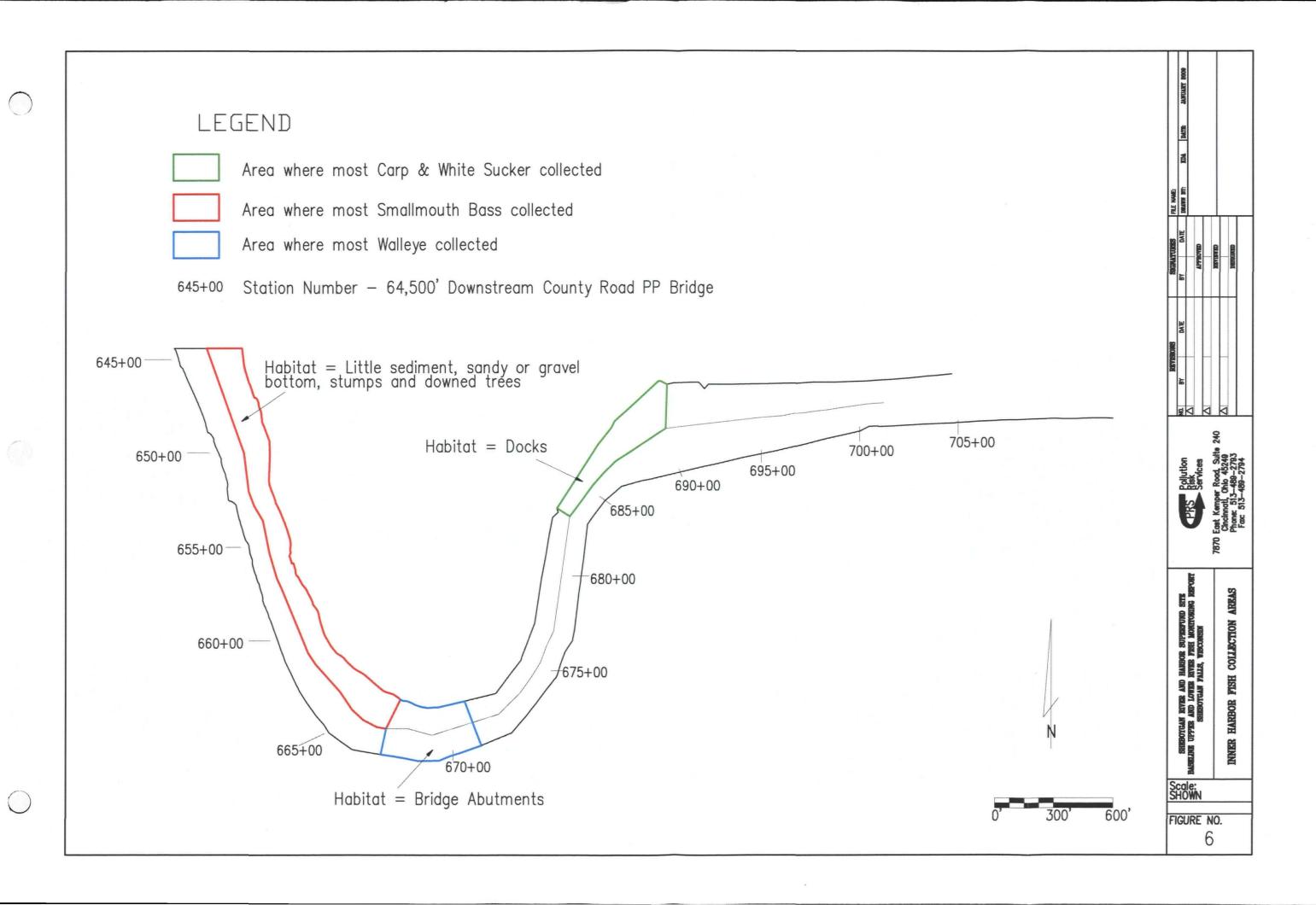












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Appendix 1

Summary of Baseline Fish Tissue Results

UPPER RIVER 1

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr)	Fat (%)	PCB (mg/kg)																	
BL-UR1-AC1-G, 8/19/08			24.0	61.0	82.0	2325	F	7/8	4.60%	37.0																	
BL-UR1-AC2-G, 8/18/08]		21.0	53.3	61.0	1729	M	6	1.33%	73.1																	
BL-UR1-AC3-G, 8/18/08]		18.0	45.7	32.0	907	M	4	4.84%	1.63																	
BL-UR1-AC4-G, 8/18/08]		19.0	48.3	50.0	1417	F	4	4.45%	7.44																	
BL-UR1-AC5-G, 9/6/08]		15.0	38.1	30.0	850	F	4	2.19%	4.77																	
BL-UR1-AC6-G, 9/6/08]		16.0	40.6	30.0	850	М	3/4	0.625%	14.0																	
BL-UR1-AC7-G, 9/6/08]		20.0	50.8	64.0	1814	M	5	2.50%	17.6																	
BL-UR1-AC8-G, 9/6/08	Adult Carp	so	19.5	49.5	48.0	1361	M	4/5	0.340%	2.08																	
BL-UR1-AC9-G, 9/6/08	Adult Carp		25.0	63.5	113	3203	M	8	7.49%	53.9																	
BL-UR1-AC10-G, 9/6/08			24.0	61.0	124	3515	M	7/8	7.55%	28.4																	
BL-UR1-AC11-G, 9/6/08]		21.0	53.3	69.0	1956	F	5/6	3.44%	9.48																	
BL-UR1-AC12-G, 9/6/08				23.0	58.4	96.0	2722	M	7	3.02%	29.4																
BL-UR1-AC13-G, 9/6/08	1				25.0	63.5	152	4309	F	8	13.69%	33.3															
BL-UR1-AC14-G, 9/6/08				25.0	63.5	123	3487	F	8	1.01%	9.55																
BL-UR1-AC15-G, 9/6/08	1																					22.5	57.2	96.0	2722	F	6/7
BL-UR1-AC16-G, 9/6/08			23.0	58.4	100	2835	M	7	7.03%	36.9																	
Mean Result for A	dult Carp		21.3	54.1	79.4	2250	NA	6.01	4.55%	25.9																	
Minimum Results for	r Adult Carp		15.0	38.1	30.0	850	NA	3.50	0.340%	1.63																	
Maximum Results fo	r Adult Carp		25.0	63.5	152.0	4309	NA	8.00	13.69%	73.1																	
Standard Deviation for	Standard Deviation for Adult Carp		3.18	8.08	37.4	1059	NA	1.65	3.60%	21.4																	
Coefficient of Variation	Coefficient of Variation for Adult Carp			0.149	0.471	0.471	NA	0.274	0.791	0.83																	
Distribution for A	Distribution for Adult Carp					N	lormal																				
Upper 95% UCL for	Adult Carp		22.9	58.1	97.7	2769	NA	6.82	6.31%	35.3																	

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr)	Fat (%)	PCB (mg/kg)
BL-UR1-AWS1-G, 8/18/08			16.0	40.6	24.0	680.4	M	4	1.40%	15.9
BL-UR1-AWS2-G, 8/18/08	1		14.0	35.6	16.0	454	M	4	1.33%	16.6
BL-UR1-AWS3-G, 8/19/08	1		13.0	33.0	16.0	454	М	3	0.555%	10.3
BL-UR1-AWS4-G, 8/19/08	Adult White	so	12.0	30.5	19.0	539	M	3	1.52%	20.6
BL-UR1-AWS5-G, 9/6/08	Sucker	30	14.0	35.6	18.0	510	M	4	0.855%	10.6
BL-UR1-AWS6-G, 9/6/08]		12.0	30.5	14.0	397	M	3	0.495%	5.74
BL-UR1-AWS7-G, 9/6/08]		14.0	35.6	19.0	539	M	3	0.330%	7.34
BL-UR1-AWS8-G, 9/6/08			11.5	29.2	11.0	312	M	3	0.760%	12.3
Mean Result for Adult	White Sucker		13.3	33.8	17.1	485	NA	3.38	0.905%	12.4
Minimum Results for Adu	alt White Sucke	er	11.5	29.2	11.0	312	NA	3.00	0.330%	5.74
Maximum Results for Adu	ult White Suck	er	16.0	40.6	24.0	680	NA	4.00	1.52%	20.6
Standard Deviation for Ad	1.49	3.77	3.87	110	NA	0.518	0.454%	5.00		
Coefficient of Variation for	0.112	0.111	0.226	0.226	NA	0.153	0.502	0.402		
Distribution for Adult	Distribution for Adult White Sucker				·	N	ormal			
Upper 95% UCL for Adu	It White Sucke	r	14.3	36.4	19.8	562	NA	3.73	1.22%	15.8
BL-UR1-JWS1-G, 8/19/08			6.00	15.2	2.00	56.7	M	1	0.151%	9.71
BL-UR1-JWS2-G, 8/19/08			6.00	15.2	1.00	28.3	M	1	0.367%	8.93
BL-UR1-JWS3-G, 8/19/08]		5.00	12.7	1.00	28.3	M	1	0.462%	6.08
BL-UR1-JWS4-G, 8/19/08	Juvenile	so	6.00	15.2	2.00	56.7	M	1	0.248%	4.85
BL-UR1-JWS5-G, 8/20/08	White Sucker	30	7.00	17.8	2.00	56.7	M	1	0.330%	7.76
BL-UR1-JWS6-G, 8/20/08			6.00	15.2	1.00	28.3	M	1	0.638%	6.51
BL-UR1-JWS7-G, 8/20/08			6.50	16.5	2.00	56.7	M	1	0.281%	2.28
BL-UR1-JWS8-G, 8/20/08			6.00	15.2	2.00	56.7	M	1	0.275%	1.99
Mean Result for Juvenile	White Sucker		6.06	15.4	1.63	46.1	NA	1.00	0.344%	6.01
Minimum Results for Juver	nile White Sucl	ker	5.00	12.7	1.00	28.3	NA	1.00	0.151%	1.99
Maximum Results for Juve	nile White Suc	ker	7.00	17.8	2.00	56.7	NA	1.00	0.638%	9.71
Standard Deviation for Juve	Standard Deviation for Juvenile White Sucker			1.43	0.518	14.7	NA	0.00	0.149%	2.85
Coefficient of Variation for Ju	Coefficient of Variation for Juvenile White Sucker			0.093	0.318	0.318	NA	0.00	0.434	0.474
	Distribution for Juvenile White Sucker					N	ormal			
Upper 95% UCL for Juven	ile White Suck	er	6.45	16.4	1.98	56.2	NA	NA	0.448%	7.92

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ^I	Fat (%)	PCB (mg/kg)
BL-UR1-SB1-G, 8/18/08			13.0	33.0	22.0	624	F	5	0.625%	18.6
BL-UR1-SB2-G, 8/18/08]		10.0	25.4	8.0	227	М	3	0.400%	21.5
BL-UR1-SB3-G, 8/19/08			15.0	38.1	34.0	964	F	6	1.43%	15.2
BL-UR1-SB4-G, 8/19/08	Smallmouth	so	10.0	25.4	11.0	312	M	3/4	0.490%	22.2
BL-UR1-SB5-G, 8/19/08	Bass	30	10.0	25.4	8.0	227	M	3	0.695%	7.33
BL-UR1-SB6-G, 8/19/08]		11.0	27.9	12.0	340	M	3/4	0.765%	6.14
BL-UR1-SB7-G, 8/19/08			14.0	35.6	23.0	652	F	6	1.17%	8.59
BL-UR1-SB8-G, 8/19/08]		10.0	25.4	8.00	227	М	4	0.430%	4.09
Mean Result for Smal	lmouth Bass		11.6	29.5	15.8	447	NA	4.25	0.750%	13.0
Minimum Results for Sn	nallmouth Bass	-	10.0	25.4	8.00	227	NA	3.00	0.400%	4.09
Maximum Results for Sr	nallmouth Bass	3	15.0	38.1	34.0	964	NA	6.00	1.43%	22.2
Standard Deviation for St	mallmouth Bas	S	2.07	5.25	9.57	271	NA	1.25	0.368%	7.28
Coefficient of Variation for	0.178	0.178	0.608	0.608	NA	0.295	0.490	0.562		
Distribution for Small	mouth Bass					N	ormal			
Upper 95% UCL for Sm	allmouth Bass		13.1	33.2	22.4	635	NA	5.12	1.00%	17.8
BL-UR1-RB1-G, 8/19/08			8.50	21.6	8.00	227	M	5	0.415%	6.53
BL-UR1-RB2-G, 8/20/08			8.00	20.3	7.00	198	M	4/5	0.590%	5.82
BL-UR1-RB3-G, 8/20/08	ļ		5.50	14.0	2.00	57	M	4	0.775%	16.8
BL-UR1-RB4-G, 8/20/08	Rock Bass	so	6.00	15.2	4.00	113	M	3/4	1.02%	10.4
BL-UR1-RB5-G, 8/20/08	NOCK Dass	30	6.00	15.2	4.00	113	M	4	0.581%	7.91
BL-UR1-RB6-G, 8/20/08			7.00	17.8	4.00	113	M	4	0.325%	1.22
BL-UR1-RB7-G, 8/20/08			8.00	20.3	6.00	170	M	4	0.485%	1.57
BL-UR1-RB8-G, 8/20/08			5.50	14.0	3.00	85.0	M	3	0.619%	5.30
Mean Result for R	ock Bass		6.81	17.3	4.75	135	NA	4.00	0.601%	6.94
Minimum Results for	Rock Bass		5.50	14.0	2.00	56.7	NA	3.00	0.325%	1.22
Maximum Results for	Rock Bass		8.50	21.6	8.00	227	NA	5.00	1.02%	16.8
Standard Deviation for Rock Bass			1.22	3.11	2.05	58.2	NA	0.598	0.217%	5.01
Coefficient of Variation	Coefficient of Variation for Rock Bass			0.180	0.432	0.432	NA	0.149	0.362	0.722
Distribution for Ro	Distribution for Rock Bass			-		N	ormal			
Upper 95% UCL for	Rock Bass		7.66	19.5	6.17	175	NA	4.41	0.752%	10.3

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) 1	Fat (%)	PCB (mg/kg)
BL-UR1-LD1-G, 9/12/08			3.00	7.62	0.260	7.37	TS	NA	2.77%	17.6
BL-UR1-LD2-G, 9/12/08]		2.50	6.35	0.120	3.40	TS	NA	1.24%	3.20
BL-UR1-LD3-G, 9/12/08	Longnose	\mathbf{w}	2.00	5.08	0.070	1.98	TS	NA	1.14%	1.72
BL-UR1-LD4-G, 9/12/08	Dace	"	2.50	6.35	0.100	2.83	TS	NA	2.30%	3.29
BL-UR1-LD5-G, 9/17/08]		3.50	8.89	0.260	7.37	TS	NA	4.00%	15.1
BL-UR1-LD6-G, 9/17/08	1		2.50	6.35	0.090	2.55	TS	NA	4.40%	5.11
Mean Result for Lon	gnose Dace		2.67	6.77	0.150	4.25	NA	NA	2.64%	7.67
Minimum Results for L	ongnose Dace		2.00	5.08	0.070	1.98	NA	NA	1.140%	1.72
Maximum Results for L	ongnose Dace		3.50	8.89	0.260	7.37	NA	NA	4.40%	17.6
Standard Deviation for I	Longnose Dace	;	0.516	1.31	0.087	2.46	NA	NA	1.363%	6.85
Coefficient of Variation for			0.194	0.194	0.578	0.578	NA	NA	0.516	0.894
Distribution for Longnose Dace			Normal							
Upper 95% UCL for Longnose Dace			3.08	7.82	0.22	6.22	NA	NA	3.73%	13.3

NA - Not applicable

TS - Too small to gender/age

SO - Scale off, skin on fillet

SOF - Skin off fillet

W - Whole fish

Where fish ages were in between ages, a half age was applied for the calculations. For example: 4/5 would be 4.5 years.

UPPER RIVER 2

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-UR2-AC1-G, 8/21/08			21.0	53.3	70.0	1984	M	5/6	7.39%	34.5
BL-UR2-AC2-G, 8/21/08]		23.0	58.4	86.0	2438	M	6/7	2.05%	5.14
BL-UR2-AC3-G, 8/21/08]		18.0	45.7	32.0	907	М	4	3.99%	3.18
BL-UR2-AC4-G, 8/21/08			15.0	38.1	31.0	879	М	4	4.64%	7.84
BL-UR2-AC5-G, 9/6/08	1		18.0	45.7	35.0	992	М	4	1.26%	3.73
BL-UR2-AC6-G, 9/6/08	1	i	23.5	59.7	94.0	2665	М	7	3.25%	30.2
BL-UR2-AC7-G, 9/6/08	1		21.5	54.6	84.0	2381	М	6	0.975%	9.23
BL-UR2-AC8-G, 9/6/08	A 414 C	so	22.5	57.2	95.0	2693	М	6	3.16%	22.7
BL-UR2-AC9-G, 9/6/08	Adult Carp	50	18.0	45.7	46.0	1304	F	4	0.955%	3.55
BL-UR2-AC10-G, 9/6/08]		15.0	38.1	22.0	624	F	4	0.315%	1.71
BL-UR2-AC11-G, 9/6/08	}		25.0	63.5	122	3459	F	8	10.03%	47.7
BL-UR2-AC12-G, 9/6/08	1		20.5	52.1	64.0	1814	M	7	1.06%	10.5
BL-UR2-AC13-G, 9/6/08	Ì		20.0	50.8	47.0	1332	М	5	0.290%	1.02
BL-UR2-AC14-G, 9/6/08	1		23.0	58.4	93.0	2637	F	7	2.06%	15.8
BL-UR2-AC15-G, 9/6/08	1		17.5	44.5	37.0	1049	M	4/5	0.405%	1.39
BL-UR2-AC16-G, 9/6/08	1		24.5	62.2	120	3402	F	7/8	7.55%	37.3
Mean Result for A	20.4	51.8	67.4	1910	NA	5.63	3.08%	14.7		
Minimum Results for	r Adult Carp		15.0	38.1	22.0	624	NA	4.00	0.290%	1.02
Maximum Results fo	r Adult Carp		25.0	63.5	122	3459	NA	8.00	10.0%	47.7
Standard Deviation for	or Adult Carp		3.18	8.07	32.7	926	NA	1.43	2.96%	15.0
Coefficient of Variation	for Adult Car	тр	0.156	0.156	0.485	0.485	NA	0.255	0.958	1.02
Distribution for A	dult Carp	<u>•</u>		·	L	Gam	ma	<u> </u>	·	
Upper 95% UCL for	Adult Carp		21.9	55.7	83.4	2364	NA	6.33	4.53%	24.9
					·	<u> </u>				
BL-UR2-AWS1-G, 8/21/08			11.0	27.9	8.00	227	М	3	0.960%	10.8
BL-UR2-AWS2-G, 8/21/08	1		13.0	33.0	15.0	425	М	3	1.32%	12.0
BL-UR2-AWS3-G, 8/21/08]		14.0	35.6	18.0	510	M	3	1.14%	5.04
BL-UR2-AWS4-G, 8/21/08	Adult White	90	9.00	22.9	7.00	198	М	2	0.715%	9.44
BL-UR2-AWS5-G, 9/6/08	Sucker	so	10.0	25.4	9.00	255	М	3	0.355%	3.95
BL-UR2-AWS6-G, 9/6/08	1		13.5	34.3	16.0	454	М	3	1.28%	16.6
BL-UR2-AWS7-G, 9/6/08	1		14.0	35.6	19.0	539	М	3	1.12%	5.95
BL-UR2-AWS8-G, 9/6/08			13.0	33.0	17.0	482	М	3	0.840%	7.52
Mean Result for Adult	White Sucker		12.2	31.0	13.6	386	NA	2.88	0.965%	8.92
Minimum Results for Ad			9.00	22.9	7.00	198	NA	2.00	0.355%	3.95
Maximum Results for Adult White Sucker			14.0	35.6	19.0	539	NA	3.00	1.32%	16.6
Standard Deviation for Adult White Sucker			1.93	4.89	4.84	137	NA	0.354	0.322%	4.19
Coefficient of Variation for	Coefficient of Variation for Adult White Sucker			0.158	0.355	0.355	NA	0.123	0.334	0.470
Distribution for Adult	Distribution for Adult White Sucker			•		Non	mal			
Upper 95% UCL for Adu	ılt White Sucl	сег	13.5	34.3	17.0	481	NA	3.12	1.19%	11.7

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)			
BL-UR2-JWS1-G, 8/21/08			6.00	15.2	5.00	142	M	1	0.510%	4.39			
BL-UR2-JWS2-G, 8/21/08	j l		7.00	17.8	4.00	113	M	11	0.450%	11.5			
BL-UR2-JWS3-G, 8/21/08	Juvenile		6.00	15.2	1.00	28.3	M	1	0.580%	5.71			
BL-UR2-JWS4-G, 8/21/08	White	so	5.00	12.7	1.00	28.3	M	1	0.440%	5.96			
BL-UR2-JWS5-G, 8/21/08	Sucker	30	5.00	12.7	1.00	28.3	M	1	0.490%	9.32			
BL-UR2-JWS6-G, 8/21/08] Sucker		7.00	17.8	2.00	56.7	M	1	0.410%	4.17			
BL-UR2-JWS7-G, 8/21/08]		8.00	20.3	3.00	85.0	M	2	0.595%	3.73			
BL-UR2-JWS8-G, 8/21/08			7.00	17.8	2.00	56.7	M	1	0.510%	9.78			
Mean Result for Juvenil	e White Suck	er	6.38	16.2	2.38	67.3	NA	1.13	0.498%	6.82			
Minimum Results for Juve	nile White Su	cker	5.00	12.7	1.00	28.3	NA	1.00	0.410%	3.73			
Maximum Results for Juve	8.00	20.3	5.00	142	NA	2.00	0.595%	11.5					
Standard Deviation for Juv	1.06	2.69	1.51	42.7	NA	0.354	0.065%	2.96					
Coefficient of Variation for J	uvenile White	Sucker	0.166	0.166	0.634	0.634	NA	0.314	0.131	0.434			
Distribution for Juvenil	e White Sucke	er .				Non	mal						
Upper 95% UCL for Juver	nile White Suc	cker	7.11	18.1	3.42	96.9	NA	1.37	0.543%	8.80			
BL-UR2-SB1-G, 8/21/08			11.0	27.9	9.00	255	F	3	1.78%	28.9			
BL-UR2-SB2-G, 8/21/08			13.0	33.0	19.0	539	F	5	0.775%	5.34			
BL-UR2-SB3-G, 8/21/08]		11.0	27.9	11.0	312	М	3	1.16%	14.9			
BL-UR2-SB4-G, 8/21/08	Smallmouth	so	12.0	30.5	14.0	397	F	5	1.67%	33.5			
BL-UR2-SB5-G, 8/2108	Bass		SO	SO	so	so	13.0	33.0	19.0	539	F	5	1.26%
BL-UR2-SB6-G, 8/21/08			10.0	25.4	10.0	283	M	3	0.970%	6.41			
BL-UR2-SB7-G, 8/21/08	1		10.0	25.4	11.0	312	М	3	1.69%	13.5			
BL-UR2-SB8-G, 8/21/08			10.0	25.4	8.00	227	M	3	1.29%	10.5			
Mean Result for Sma	Ilmouth Bass		11.3	28.6	12.6	358	NA	3.75	1.32%	14.5			
Minimum Results for Si	mallmouth Ba	ss	10.0	25.4	8.00	227	NA	3.00	0.775%	3.12			
Maximum Results for Si	Maximum Results for Smallmouth Bass			33.0	19.0	539	NA	5.00	1.78%	33.5			
Standard Deviation for S	Standard Deviation for Smallmouth Bass			3.26	4.31	122	NA	1.04	0.361%	11.1			
Coefficient of Variation for Smallmouth Bass			0.114	0.114	0.341	0.341	NA	0.276	0.273	0.765			
Distribution for Smal	Distribution for Smallmouth Bass					Non	mal	J					
Upper 95% UCL for Sn	Upper 95% UCL for Smallmouth Bass			30.8	15.6	443	NA	4.47	1.57%	22.0			

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)			
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BL-UR2-RB1-G, 8/21/08	,		9.00	22.9	9.00	255	F	5	0.405%	1.04			
BL-UR2-RB2-G, 8/21/08			8.00	20.3	8.00	227	M	4	0.670%	4.24			
BL-UR2-RB3-G, 8/21/08			6.00	15.2	2.00	56.7	M	4	0.980%	8.25			
BL-UR2-RB4-G, 8/22/08	Rock Bass	so	7.00	17.8	4.00	113	M	4	1.20%	8.72			
BL-UR2-RB5-G, 8/22/08	ROCK Dass	SO	8.00	20.3	7.00	198	М	5	0.470%	4.32			
BL-UR2-RB6-G, 8/22/08	1		8.00	20.3	7.00	198	F	4	0.705%	3.78			
BL-UR2-RB7-G, 8/22/08						8.00	20.3	7.00	198	M	4/5	0.580%	3.04
BL-UR2-RB8-G, 9/6/08			8.00	20.3	6.00	170	M	4	0.240%	0.739			
Mean Result for R	ock Bass		7.75	19.7	6.25	177	NA	4.31	0.656%	4.27			
Minimum Results fo	r Rock Bass		6.00	15.2	2.00	56.7	NA	4.00	0.240%	0.739			
Maximum Results fo	r Rock Bass		9.00	22.9	9.00	255	NA	5.00	1.200%	8.72			
Standard Deviation for	or Rock Bass		0.886	2.25	2.25	63.8	NA	0.458	0.312%	2.94			
Coefficient of Variation for Rock Bass			0.114	0.114	0.360	0.360	NA	0.106	0.475	0.688			
Distribution for R	Distribution for Rock Bass			Normal									
Upper 95% UCL for	Upper 95% UCL for Rock Bass			21.2	7.81	221	NA	4.63	0.872%	6.23			

NA - Not applicable

SO - Scale off, skin on fillet

SOF - Skin off fillet

W - Whole fish

Where fish ages were in between ages, a half age was applied for the calculations. For example: 4/5 would be 4.5 yers.

MIDDLE RIVER 1

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)						
BL-MR1-AC1-G, 9/16/08			16.0	40.6	28.0	794	М	4	1.22%	2.06						
BL-MR1-AC2-G, 9/16/08			16.0	40.6	23.0	652	M	4	0.770%	1.71						
BL-MR1-AC3-G, 9/16/08			17.0	43.2	32.0	907	M	4	0.390%	1.33						
BL-MR1-AC4-G, 9/16/08	Adult Carp	so	17.0	43.2	36.0	1021	F	4	3.21%	2.51						
BL-MR1-AC5-G, 9/16/08	Adult Carp	30	15.5	39.4	28.0	794	M	4	0.845%	1.62						
BL-MR1-AC6-G, 9/16/08			16.0	40.6	25.0	709	M	4	1.17%	1.28						
BL-MR1-AC7-G, 9/16/08			17.5	44.5	36.0	1021	М	4	1.14%	2.21						
BL-MR1-AC8-G, 9/16/08			20.5	52.1	74.0	2098	F	6	3.16%	22.8						
Mean Result for Ac	lult Carp		16.9	43.0	35.3	999	NA	4.25	1.49%	4.44						
Minimum Results for	Adult Carp		15.5	39.4	23.0	652	NA	4.00	0.390%	1.28						
Maximum Results for	Adult Carp		20.5	52.1	74.0	2098	NA	6.00	3.21%	22.8						
Standard Deviation for	Adult Carp		1.59	4.05	16.4	464	NA	0.707	1.08%	7.43						
Coefficient of Variation	for Adult Carp)	0.094	0.094	0.464	0.464	NA	0.166	0.728	1.67						
Distribution for Ad						Non-Para	metric									
Upper 95% UCL for .	Adult Carp		18.0	45.8	46.6	1321	NA	4.74	2.24%	15.89						
BL-MR1-AWS1-G, 9/16/08			16.0	40.6	31.0	879	M	4	0.870%	3.72						
BL-MR1-AWS2-G, 9/16/08		Ì	15.0	38.1	26.0	737	М	3	1.30%	11.8						
BL-MR1-AWS3-G, 9/16/08	Adult White		10.0	25.4	8.0	227	M	2	0.740%	3.24						
BL-MR1-AWS4-G, 9/17/08	Sucker	so	16.0	40.6	26.0	737	M	3/4	0.795%	19.9						
BL-MR1-AWS5-G, 9/17/08	Suckei		16.0	40.6	28.0	794	M	4	1.50%	8.79						
BL-MR1-AWS6-G, 9/17/08]		14.0	35.6	18.0	510	М	3	0.705%	4.68						
BL-MR1-AWS7-G, 9/17/08]		16.0	40.6	27.0	765	М	4	1.01%	9.23						
Mean Result for Adult	White Sucker		14.7	37.4	23.4	664	NA	3.36	0.987%	8.77						
Minimum Results for Adu	It White Sucke	er	10.0	25.4	8.0	227	NA	2.00	0.705%	3.24						
Maximum Results for Adu	lt White Suck	er	16.0	40.6	31.0	879	NA	4.00	1.50%	19.9						
Standard Deviation for Adv	Standard Deviation for Adult White Sucker		2.21	5.62	7.87	223	NA	0.748	0.303%	5.86						
Coefficient of Variation for A	Coefficient of Variation for Adult White Sucker		0.151	0.150	0.336	0.336	NA	0.223	0.307	0.669						
Distribution for Adult \	White Sucker					Norn	nal			.507 0.009						
Upper 95% UCL for Adu	t White Sucke	er	16.4	41.5	29.3	829	NA	3.91	1.21%	13.07						

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)	
BL-MR1-SB1-G, 9/16/08	1	·	13.0	33.0	22.0	624	М	5	1.37%	14.1	
BL-MR1-SB2-G, 9/16/08	1		15.0	38.1	32.0	907	F	6	2.27%	6.04	
BL-MR1-SB3-G, 9/16/08	1		14.0	35.6	21.0	595	М	5	1.09%	5.77	
BL-MR1-SB4-G, 9/16/08	Smallmouth	so	14.0	35.6	21.0	595	F	5	0.815%	4.20	
BL-MR1-SB5-G, 9/16/08	Bass	30	14.5	36.8	25.0	709	М	6	0.765%	7.46	
BL-MR1-SB6-G, 9/16/08]		12.0	30.5	18.0	510	М	5	0.680%	9.29	
BL-MR1-SB7-G, 9/16/08	1	ì	15.0	38.1	30.0	850	М	6	1.30%	18.2	
BL-MR1-SB8-G, 9/16/08	1		11.0	27.9	11.0	312	М	4	0.830%	4.97	
Mean Result for Small	mouth Bass		13.6	34.4	22.5	638	NA	5.25	1.14%	8.75	
Minimum Results for Smallmouth Bass			11.0	27.9	11.0	312	NA	4.00	0.680%	4.20	
Maximum Results for Sn	nallmouth Base	s	15.0	38.1	32.0	907	NA	6.00	2.27%	18.2	
Standard Deviation for Sr	nallmouth Bas	S	1.45	3.68	6.65	189	NA	0.707	0.521%	4.94	
Coefficient of Variation for	Smallmouth B	ass	0.107	0.107	0.296	0.296	NA	0.135	0.458	0.565	
Distribution for Small	mouth Bass		Normal								
Upper 95% UCL for Sm	allmouth Bass		14.6	37.0	27.1	769	NA	5.74	1.50%	12.1	
BL-MR1-RB1-G, 9/17/08	Rock Bass	so	7.00	17.8	6.00	170	М	4	0.810%	2.79	
Mean Result for Re	ock Bass		7.00	17.8	6.00	170	NA	NA	0.810%	2.79	
Minimum Results for	Rock Bass		7.00	17.8	6.00	170	NA	NA	0.810%	2.79	
Maximum Results for Rock Bass		7.00	17.8	6.00	170	NA	NA	0.810%	2.79		
Standard Deviation for Rock Bass		NA	NA	NA	NA	NA	NA	NA	NA		
Coefficient of Variation for Rock Bass			NA	NA	NA	NA	NA	NA	NA	NA	
Distribution for Ro	ock Bass		NA	NA	NA	NA	NA	NA	NA	NA	
Upper 95% UCL for	Rock Bass		NA	NA	NA	NA	NA	NA	NA	NA	

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)				
BL-MR1-LD1-G, 9/10/08			4.00	10.2	0.330	9.36	TS	NA	5.82%	17.8				
BL-MR1-LD2-G, 9/10/08]		3.50	8.89	0.270	7.65	TS	NA	2.08%	8.35				
BL-MR1-LD3-G, 9/10/08	Longnose	w	2.00	5.08	0.080	2.27	TS	NA	3.64%	8.92				
BL-MR1-LD4-G, 9/10/08	Dace	*	2.50	6.35	0.090	2.55	TS	NA	4.84%	7.08				
BL-MR1-LD5-G, 9/11/08			2.00	5.08	0.060	1.70	TS	NA	2.70%	7.10				
BL-MR1-LD6-G, 9/11/08	_		2.00	5.08	0.060	1.70_	TS	NA	3.09%	7.56				
Mean Result for Lon	gnose Dace		2.67	6.78	0.148	4.21	NA	NA	3.70%	9.47				
Minimum Results for L	ongnose Dace		2.00	5.08	0.060	1.70	NA	NA	2.08%	7.08				
Maximum Results for Longnose Dace		4.00	10.2	0.330	9.36	NA	NA	5.82%	17.8					
Standard Deviation for L	ongnose Dace	;	0.876	2.24	0.120	3.39	NA	NA	1.40%	4.15				
Coefficient of Variation fo	r Longnose Da	ice	0.328	0.330	0.806	0.806	NA	NA	0.379	0.438				
Distribution for Long	gnose Dace					Non-Para	metric			12.88				
Upper 95% UCL for Lo	ongnose Dace		3.37	8.57	0.244	6.92	NA	NA	4.81%	12.88				
BL-MR1-CC1-G, 9/17/08	<u> </u>	1	21.0	53.3	55.0	1559	М	8	4.02%	15.9				
BL-MR1-CC2-G, 9/17/08	Channel	505	22.0	55.9	71.0	2013	М	8	12.6%	49.2				
BL-MR1-CC3-G, 9/17/08	Catfish	SOF	19.0	48.3	42.0	1191	F	6	6.34%	29.8				
BL-MR1-CC4-G, 9/17/08	1		20.0	50.8	59.0	1673	F	6/7	5.27%	16.6				
Mean Result for Char	nnel Catfish	*.,	20.5	52.1	56.8	1609	NA	7.13	7.04%	27.9				
Minimum Results for C	hannel Catfish		19.0	48.3	42.0	1191	NA	6.00	4.02%	15.9				
Maximum Results for C	hannel Catfish		22.0	55.9	71.0	2013	NA	8.00	12.6%	49.2				
Standard Deviation for C	hannel Catfish	1	1.29	3.28	12.0	339	NA	1.03	3.80%	15.6				
Coefficient of Variation for	r Channel Catf	ish	0.063	0.063	0.211	0.211	NA	0.145	0.539	0.559				
Distribution for Char	nel Catfish				To fe	ew samples t	o determin	e**	A	•				
Upper 95% UCL for Cl	Upper 95% UCL for Channel Catfish			55.3	68.5	1941	NA	8.135	10.8%	43.2				

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-MR1-W1-G, 9/16/08			21.0	53.3	58.0	1644	· M	6	2.33%	16.8
BL-MR1-W2-G, 9/16/08			19.5	49.5	54.0	1531	M	5	2.11%	16.3
BL-MR1-W3-G, 9/16/08]		12.5	31.8	12.0	340	M	2	0.595%	5.58
BL-MR1-W4-G, 9/16/08	Walleye	so	16.0	40.6	22.0	624	M	3	1.52%	13.7
BL-MR1-W5-G, 9/16/08	Walleye	30	16.0	40.6	22.0	624	М	3	0.695%	7.93
BL-MR1-W6-G, 9/16/08]		17.5	44.5	33.0	936	M	4	1.61%	14.3
BL-MR1-W7-G, 9/16/08]		13.0	33.0	12.0	340	М	2	0.465%	6.03
BL-MR1-W8-G, 9/16/08]		15.5	39.4	20.0	567	M	3	1.00%	8.41
Mean Result for V	Valleye		16.4	41.6	29.1	826	NA	3.50	1.29%	11.1
Minimum Results fo	r Walleye		12.5	31.8	12.0	340	NA	2.00	0.465%	5.58
Maximum Results fo	or Walleye		21.0	53.3	58.0	1644	NA	6.00	2.33%	16.8
Standard Deviation for	or Walleye		2.92	7.43	17.9	507	NA	1.41	0.706%	4.63
Coefficient of Variation	for Walleye			0.179	0.614	0.614	NA	0.404	0.548	0.416
Distribution for Walleye						Norn	ıal			
Upper 95% UCL for	r Walleye		18.4	46.7	41.5	1177	NA	4.48	1.78%	14.2

NA - Not applicable

TS - Too small to gender/age

SO - Scale off, skin on fillet

SOF - Skin off fillet

W - Whole fish

^{**} ProUCL could not determine. Based on the coefficient of variation being less than 1.0 and the majority of other data being normal, it was assumed to be normal and 95% UCL was determined accordingly.

¹ Where fish ages were in between ages, a half age was applied for the calculations. For example: 4/5 would be 4.5 years.

MIDDLE RIVER 2

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) 1	Fat (%)	PCB (mg/kg)
BL-MR2-AC1-G, 9/15/08	Adult Carp	so	19.0	48.3	44.0	1247	М	5	0.730%	1.27
Mean Result for A	Adult Carp		19.0	48.3	44.0	1247	NA	NA	0.730%	1.27
Minimum Results fo	Minimum Results for Adult Carp			48.3	44.0	1247	NA	NA	0.730%	1.27
Maximum Results fo	or Adult Carp		19.0	48.3	44.0	1247	NA	NA	0.730%	1.27
Standard Deviation for	or Adult Carp		NA	NA	NA	NA	NA	NA	NA	NA
Coefficient of Variation	n for Adult Car	p	NA	NA	NA	NA	NA	NA	NA	NA
Distribution for A	dult Carp		NA	NA	NA	NA	NA	NA	NA	NA
Upper 95% UCL for	r Adult Carp		NA	NA	NA	NA	NA	NA	NA	NA
					_					
BL-MR2-AWS1-G, 9/8/08			14.5	36.8	17.0	482	M	4	0.200%	3.24
BL-MR2-AWS2-G, 9/8/08			14.5	36.8	18.0	510	M	4	0.170%	2.37
BL-MR2-AWS3-G, 9/8/08]	14.0	35.6	20.0	567	M	3	0.520%	3.51
BL-MR2-AWS4-G, 9/8/08	Adult White	so	16.0	40.6	26.0	737	F	4	0.715%	3.48
BL-MR2-AWS5-G, 9/8/08	Sucker	30	14.0	35.6	13.0	369	M	3	0.150%	0.925
BL-MR2-AWS6-G, 9/8/08			16.0	40.6	23.0	652	F	4	1.23%	6.36
BL-MR2-AWS7-G, 9/8/08]		15.0	38.1	22.0	624	F	3	0.585%	6.98
BL-MR2-AWS8-G, 9/8/08			13.5	34.3	16.0	454	M	3	1.36%	4.83
Mean Result for Adul	t White Sucker		14.7	37.3	19.4	549	NA	3.50	0.616%	3.96
Minimum Results for Ac	lult White Sucl	ker	13.5	34.3	13.0	369	NA	3.00	0.150%	0.925
Maximum Results for Ac	dult White Suc	ker	16.0	40.6	26.0	737	NA	4.00	1.36%	6.98
Standard Deviation for A	dult White Suc	ker	0.923	2.35	4.21	119	NA	0.535	0.468%	2.01
Coefficient of Variation for	Coefficient of Variation for Adult White Sucker			0.063	0.217	0.217	NA	0.153	0.760	0.508
Distribution for Adult	White Sucker					No	rmal			
Upper 95% UCL for Ad	Upper 95% UCL for Adult White Sucker			38.9	22.3	632	NA	3.87	0.940%	5.31

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)						
BL-MR2-JWS1-G, 9/8/08			8.00	20.3	3.00	85.0	M	2	0.480%	2.03						
BL-MR2-JWS2-G, 9/8/08			8.00	20.3	3.00	85.0	M	1	0.400%	1.20						
BL-MR2-JWS3-G, 9/15/08	Juvenile		8.00	20.3	4.00	113	M	1	0.740%	1.76						
BL-MR2-JWS4-G, 9/15/08	White Sucker	so	8.00	20.3	3.00	85.0	M	1	0.575%	1.13						
BL-MR2-JWS5-G, 9/15/08	Wille Suckei		8.00	20.3	3.00	85.0	M	1	0.270%	0.98						
BL-MR2-JWS6-G, 9/15/08			8.00	20.3	3.00	85.0	M	1	0.557%	1.08						
BL-MR2-JWS7-G, 9/15/08			6.00	15.2	2.00	56.7	M	1	0.455%	1.40						
Mean Result for Juvenil	le White Sucke	er	7.71	19.6	3.00	85.0	NA	1.14	0.497%	1.37						
Minimum Results for Juve	nile White Su	cker	6.00	15.2	2.00	56.7	NA	1.00	0.270%	0.98						
Maximum Results for Juve	enile White Su	cker	8.00	20.3	4.00	113	NA	2.00	0.740%	2.03						
Standard Deviation for Juv	enile White Su	ıcker	0.756	1.92	0.577	16.4	NA	0.378	0.148%	0.39						
Coefficient of Variation for J	uvenile White	Sucker	0.098	0.098	0.192	0.192	NA	0.331	0.298	0.28						
Distribution for Juvenil	e White Sucke	r				No	mal									
Upper 95% UCL for Juve	Upper 95% UCL for Juvenile White Sucker				3.43	97.2	NA	1.42	0.606%	1.66						
BL-MR2-SB1-G, 9/8/08			17.0	43.2	43.0	1219	F	8	0.875%	3.53						
BL-MR2-SB2-G, 9/8/08	į		14.5	36.8	27.0	765	M	6	1.09%	7.65						
BL-MR2-SB3-G, 9/8/08			12.0	30.5	16.0	454	F	4	2.00%	5.54						
BL-MR2-SB4-G, 9/8/08	Smallmouth	so	11.0	27.9	15.0	425	F	3	1.06%	2.64						
BL-MR2-SB5-G, 9/8/08	Bass	30	11.5	29.2	16.0	454	F	3	1.12%	3.65						
BL-MR2-SB6-G, 9/8/08			11.0	27.9	13.0	369	F	3	1.09%	3.08						
BL-MR2-SB7-G, 9/8/08			10.0	25.4	11.0	312	M	3	1.30%	4.28						
BL-MR2-SB8-G, 9/8/08			12.0	30.5	16.0	454	M	4	1.26%	4.05						
Mean Result for Sma	llmouth Bass		12.4	31.4	19.6	556	NA	4.25	1.22%	4.30						
Minimum Results for St	mallmouth Bas	SS	10.0	25.4	11.0	312	NA	3.00	0.875%	2.64						
Maximum Results for S	mallmouth Ba	ss	17.0	43.2	43.0	1219	NA	8.00	2.00%	7.65						
Standard Deviation for S			2.28	5.79	10.6	299	NA	1.83	0.338%	1.61						
Coefficient of Variation fo			0.184	0.184	0.538	0.538	NA	0.431	0.277	0.374						
Distribution for Small	Coefficient of Variation for Smallmouth Bass Distribution for Smallmouth Bass					No	mal			2.64 7.65 1.61						
Upper 95% UCL for Sn	nallmouth Bas	S	14.0	35.4	26.9	764	NA	5.52	1.46%	5.38						

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-MR2-RB1-G, 9/8/08			7.00	17.8	4.00	113	M	4	0.480%	1.42
BL-MR2-RB2-G, 9/8/08			7.00	17.8	4.00	113	M	4	0.593%	2.09
BL-MR2-RB3-G, 9/15/08			7.00	17.8	6.00	170	M	3/4	1.24%	1.88
BL-MR2-RB4-G, 9/15/08	Rock Bass	so	6.50	16.5	5.00	142	F	3	1.80%	3.47
BL-MR2-RB5-G, 9/15/08	ROCK Dass	30	5.50	14.0	2.00	56.7	M	3	1.02%	2.86
BL-MR2-RB6-G, 9/15/08]		6.00	15.2	2.00	56.7	M	3	1.30%	3.70
BL-MR2-RB7-G, 9/15/08			6.00	15.2	2.00	56.7	M	3	0.583%	2.27
BL-MR2-RB8-G, 9/15/08			8.00	20.3	5.00	142	M	4	0.495%	2.20
Mean Result for F	Rock Bass		6.63	16.8	3.75	106	NA	3.44	0.939%	2.49
Minimum Results fo	or Rock Bass		5.50	14.0	2.00	56.7	NA	3.00	0.480%	1.42
Maximum Results for	or Rock Bass	•	8.00	20.3	6.00	170	NA	4.00	1.80%	3.70
Standard Deviation f	or Rock Bass		0.791	2.01	1.58	44.8	NA	0.496	0.482%	0.790
Coefficient of Variation	n for Rock Bas	S	0.119	0.119	0.422	0.422	NA	0.144	0.513	0.318
Distribution for R	lock Bass					No	rmal			
Upper 95% UCL for	r Rock Bass		7.17	18.2	4.85	137	NA	3.78	1.27%	3.02
BL-MR2-LD1-G, 9/10/08			3.50	8.89	0.210	5.95	M	NA	2.84%	6.20
BL-MR2-LD2-G, 9/10/08			3.50	8.89	0.340	9.64	TS	NA	5.02%	9.60
BL-MR2-LD3-G, 9/10/08			3.50	8.89	0.280	7.94	TS	NA	6.08%	10.9
BL-MR2-LD4-G, 9/10/08	Longnose	W	4.00	10.2	0.390	11.1	TS	NA	5.50%	11.0
BL-MR2-LD5-G, 9/10/08	Dace	**	2.00	5.08	0.060	1.70	TS	NA	2.33%	4.86
BL-MR2-LD6-G, 9/10/08			2.50	6.35	0.110	3.12	TS	NA	5.09%	7.17
BL-MR2-LD7-G, 9/10/08]		3.50	8.89	0.260	7.37	TS	NA	4.13%	9.86
BL-MR2-LD8-G, 9/10/08			3.00	7.62	0.240	6.80	TS	NA	5.74%	8.47
Mean Result for Lor	ngnose Dace		3.19	8.10	0.236	6.70	NA	NA	4.59%	8.51
Minimum Results for l	Longnose Dace		2.00	5.08	0.060	1.70	NA	NA	2.33%	4.86
	Maximum Results for Longnose Dace		4.00	10.2	0.390	11.1	NA	NA	6.08%	11.0
Standard Deviation for	Standard Deviation for Longnose Dace		0.651	1.65	0.110	3.12	NA	NA	1.37%	2.25
Coefficient of Variation f	or Longnose D	ace	0.204	0.204	0.465	0.465	NA	NA	0.299	0.264
Distribution for Lor	ignose Dace					No	rmal			
Upper 95% UCL for I	ongnose Dace		3.64	9.24	0.312	8.86	NA	NA	5.54%	10.0

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-MR2-CC1-G, 9/8/08			19.0	48.3	42.0	1191	F	7	4.21%	6.90
BL-MR2-CC2-G, 9/15/08	Channel	SOF	22.0	55.9	109	3090	M	7	6.01%	8.68
BL-MR2-CC3-G, 9/15/08	Catfish	SOF	22.0	55.9	73.0	2070	M	6	3.45%	16.6
BL-MR2-CC4-G, 9/15/08			17.0	43.2	24.0	680	F	5	3.49%	0.532
Mean Result for Ch	annel Catfish		20.0	50.8	62.0	1758	NA	6.25	4.29%	8.18
Minimum Results for	Channel Catfish	1	17.0	43.2	24.0	680	NA	5.00	3.45%	0.532
Maximum Results for	Channel Catfisl	h	22.0	55.9	109	3090	NA	7.00	6.01%	16.6
Standard Deviation for	Channel Catfis	h	2.45	6.22	37.3	1057	NA	0.957	1.20%	6.62
Coefficient of Variation 1	for Channel Cat	fish	0.122	0.122	0.602	0.602	NA	0.153	0.280	0.809
Distribution for Cha			To	few sample:	s to determ	ine**				
Upper 95% UCL for Channel Catfish			22.4	56.9	98.6	2794	NA	7.19	5.46%	14.7

NA - Not applicable

TS - Too small to gender/age

SO - Scale off, skin on fillet

SOF - Skin off fillet

W - Whole fish

^{**} ProUCL could not determine. Based on the coefficient of variation being less than 1.0 and the majority of other data being normal, it was assumed to be normal and 95% UCL was determined accordingly.

¹ Where fish ages were in between ages, a half age was applied for the calculations. For example: 4/5 wuld be 4.5 years.

LOWER RIVER

FISH SAMPLE RESULTS - LOWER RIVER

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) 1	Fat (%)	PCB (mg/kg)						
BL-LR-AC1-G, 8/25/08			17.5	44.5	32.0	907	M	4/5	2.46%	2.52						
BL-LR-AC2-G, 8/25/08			24.5	62.2	112	3175	M	7/8	2.69%	15.7						
BL-LR-AC3-G, 9/3/08			21.0	53.3	77.0	2183	F	6	5.51%	0.458						
BL-LR-AC4-G, 9/3/08	Adult Carp	so	17.5	44.5	44.0	1247	M	4/5	9.03%	44.9						
BL-LR-AC5-G, 9/3/08	Adult Carp	30	24.0	61.0	115	3260	M	7	6.40%	18.4						
BL-LR-AC6-G, 9/3/08]		24.0	61.0	111	3147	F	7	3.63%	4.46						
BL-LR-AC7-G, 9/3/08]		18.0	45.7	46.0	1304	M	5	0.825%	1.97						
BL-LR-AC8-G, 9/3/08	: 		19.5	49.5	60.0	1701	M	5/6	1.07%	1.89						
Mean Result for A	dult Carp		20.8	52.7	74.6	2116	NA	5.9	3.95%	11.3						
Minimum Results for	Adult Carp		17.5	44.5	32.0	907	NA	4.50	0.825%	0.458						
Maximum Results for	r Adult Carp		24.5	62.2	115	3260	NA	7.50	9.03%	44.9						
Standard Deviation for	r Adult Carp		3.06	7.76	34.1	967	NA	1.19	2.83%	15.2						
Coefficient of Variation	for Adult Carp)	0.147	0.147	0.457	0.457	NA	0.202	0.717	1.35						
Distribution for A	dult Carp					Logn	ormal									
Upper 95% UCL for	Adult Carp		22.9	58.1	98	2786	NA	6.70	5.91%	32.6						
BL-LR-AWS1-G, 8/25/08	Adult White	so	12.5	31.8	14.0	397	M	3	1.03%	4.96						
BL-LR-AWS2-G, 8/25/08	Sucker		13.5	34.3	16.0	454	M	3	0.705%	3.65						
Mean Result for Adult	White Sucker		13.0	33.0	15.0	425	NA	3.00	0.865%	4.31						
Minimum Results for Adv	ult White Suck	er	12.5	31.8	14.0	397	NA	3.00	0.705%	3.65						
Maximum Results for Ad	ult White Suck	er	13.5	34.3	16.0	454	NA	3.00	1.03%	4.96						
Standard Deviation for Ad	lult White Sucl	ker	0.707	1.80	1.41	40.1	NA	0.00	0.226%	0.926						
Coefficient of Variation for Adult White Sucker			0.054	0.054	0.094	0.094	NA	0.00	0.262	0.215						
Distribution for Adult	White Sucker				То	few sample	s to determ	determine								
Upper 95% UCL for Adu	ılt White Sucke	er		77.72	То	few sample	s to determ	nine								

FISH SAMPLE RESULTS - LOWER RIVER

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-LR-JWS1-G, 8/25/08			7.00	17.8	2.00	56.7	M	1	0.140%	1.27
BL-LR-JWS2-G, 8/26/08	Juvenile		8.00	20.3	3.00	85.0	M	1	0.205%	1.64
BL-LR-JWS3-G, 8/26/08	White Sucker	SO	6.50	16.5	2.00	56.7	M	1	0.245%	0.713
BL-LR-JWS4-G, 8/26/08	Winte Sucker		5.00	12.7	2.00	56.7	M	1	0.094%	0.587
BL-LR-JWS5-G, 9/3/08			7.00	17.8	2.00	56.7	M	2	0.405%	0.967
Mean Result for Juvenile	e White Sucke	r	6.70	17.0	2.20	62.4	NA	1.20	0.218%	1.04
Minimum Results for Juver	nile White Suc	ker	5.00	12.7	2.00	56.7	NA	1.00	0.094%	0.587
Maximum Results for Juve	ximum Results for Juvenile White Suc		8.00	20.3	3.00	85.0	NA	2.00	0.405%	1.64
Standard Deviation for Juve	nile White Su	cker	1.10	2.78	0.447	12.7	NA	0.447	0.120%	0.427
Coefficient of Variation for Ju	venile White	Sucker	0.163	0.163	0.203	0.203	NA	0.373	0.550	0.413
Distribution for Juvenile	Distribution for Juvenile White Sucker					Nor	mal			
Upper 95% UCL for Juver	ile White Sucl	ker	7.66	19.5	2.59	73.5	NA	1.59	0.323%	1.44
BL-LR-SB1-G, 8/25/08			10.0	25.4	8.00	227	M	3	1.19%	8.17
BL-LR-SB2-G, 8/25/08	[10.5	26.7	9.00	255	F	3/4	0.380%	5.14
BL-LR-SB3-G, 8/25/08			13.0	33.0	25.0	709	M	5	0.650%	2.02
BL-LR-SB4-G, 8/25/08	Smallmouth	so	10.0	25.4	9.00	255	F	3	0.685%	1.78
BL-LR-SB5-G, 8/25/08	Bass		12.0	30.5	15.0	425	F	3/4	1.50%	7.01
BL-LR-SB6-G, 8/25/08			11.0	27.9	11.0	312	M	4	0.915%	4.84
BL-LR-SB7-G, 8/25/08			12.0	30.5	17.0	482	M	5	2.13%	10.9
BL-LR-SB8-G, 8/25/08			10.5	26.7	9.00	255	M	3	1.05%	6.30
Mean Result for Smal	lmouth Bass		11.1	28.3	12.9	365	NA	3.75	1.06%	5.77
Minimum Results for Sn	nallmouth Bas	S	10.0	25.4	8.00	227	NA	3.00	0.380%	1.78
Maximum Results for Sr	nallmouth Bas	s	13.0	33.0	25.0	709	NA	5.00	2.13%	10.9
Standard Deviation for S	Standard Deviation for Smallmouth Bass		1.09	2.78	5.87	166	NA	0.845	0.552%	3.05
Coefficient of Variation for	Smallmouth E	Bass	0.098	0.098	0.456	0.456	NA	0.225	0.520	0.529
Distribution for Smal	Distribution for Smallmouth Bass					Nor	mal			
Upper 95% UCL for Sm	nallmouth Bass	3	11.9	30.2	16.9	480	NA	4.34	1.44%	7.81

FISH SAMPLE RESULTS - LOWER RIVER

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr)	Fat (%)	PCB (mg/kg)	
BL-LR-RB1-G, 8/26/08			7.00	17.8	4.00	113	M	3/4	0.510%	1.76	
BL-LR-RB2-G, 8/26/08		so	6.50	16.5	4.00	113	M	3	0.410%	1.95	
BL-LR-RB3-G, 8/26/08]		5.50	14.0	3.00	85.0	M	3	0.283%	1.40	
BL-LR-RB4-G, 8/26/08]		5.00	12.7	2.00	56.7	M	2	0.982%	4.11	
BL-LR-RB5-G, 8/26/08	Rock Bass		6.50	16.5	4.00	113	M	3	0.980%	3.33	
BL-LR-RB6-G, 8/26/08			6.50	16.5	4.00	113	M	3	0.445%	1.84	
BL-LR-RB7-G, 8/26/08]		6.00	15.2	3.00	85.0	M	3	0.393%	1.63	
BL-LR-RB8-G, 8/26/08]		7.00	17.8	4.00	113	M	3	0.915%	4.27	
BL-LR-RB9-G, 8/26/08			6.50	16.5	4.00	113	M	3	0.300%	3.07	
Mean Result for R	ock Bass		6.28	15.9	3.56	101	NA	2.94	0.580%	2.60	
Minimum Results for	r Rock Bass		5.00	12.7	2.00	56.7	NA	2.00	0.283%	1.40	
Maximum Results fo	r Rock Bass		7.00	17.8	4.00	113	NA	3.50	0.982%	4.27	
Standard Deviation for	or Rock Bass		0.667	1.69	0.726	20.6	NA	0.391	0.293%	1.11	
Coefficient of Variation for Rock Bass		0.106	0.106	0.204	0.204	NA	0.133	0.506	0.429		
Distribution for Rock Bass				Normal							
Upper 95% UCL for Rock Bass			6.71	17.1	4.03	114	NA	3.20	0.771%	3.29	

FISH SAMPLE RESULTS - LOWER RIVER

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-LR-CC1-G, 8/25/08			19.0	48.3	44.0	1247	M	6	4.11%	8.49
BL-LR-CC2-G, 8/25/08	Channel	SOF	21.0	53.3	55.0	1559	M	7	4.34%	11.7
BL-LR-CC3-G, 8/25/08	Catfish	Catfish SOF		50.8	58.0	1644	M	6	4.98%	6.37
BL-LR-CC4-G, 8/25/08]		17.0	43.2	34.0	964	M	6	7.81%	28.4
Mean Result for Cha	nnel Catfish		19.3	48.9	47.8	1354	NA	6.25	5.31%	13.7
Minimum Results for C	hannel Catfish		17.0	43.2	34.0	964	NA	6.00	4.11%	6.37
Maximum Results for C	hannel Catfish		21.0	53.3	58.0	1644	NA	7.00	7.81%	28.4
Standard Deviation for C	Channel Catfish	1	1.71	4.33	11.0	311	NA	0.500	1.71%	10.0
Coefficient of Variation for Channel Catfish		0.089	0.089	0.230	0.230	NA	0.080	0.322	0.729	
Distribution for Channel Catfish					To f	ew samples	to determi	ne**		
Upper 95% UCL for Channel Catfish			20.9	53.1	58.5	1658	NA	6.74	6.98%	25.1

NA - Not applicable

SO - Scale off, skin on fillet

SOF - Skin off fillet

W - Whole fish

^{**} ProUCL could not determine. Based on the coefficient of variation being less than 1.0 and the majority of other data being normal, it was assumed to be normal and 95% UCL was determined accordingly.

Where fish ages were in between ages, a half age was applied for the calculations. For example: 4/5 would be 4.5 years.

INNER HARBOR

FISH SAMPLE RESULTS - INNER HARBOR

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ¹	Fat (%)	PCB (mg/kg)
BL-IH-AC1-G, 8/27/08			21.0	53.3	69.0	1956	М	6	3.83%	9.14
BL-1H-AC2-G, 8/27/08	1		23.0	58.4	112	3175	М	7	1.91%	3.21
BL-IH-AC3-G, 8/27/08]		16.5	41.9	36.0	1021	F	5	2.52%	2.46
BL-1H-AC4-G, 8/27/08	A 4-14 C	so	17.0	43.2	37.0	1049	F	4	3.03%	5.02
BL-IH-AC5-G, 8/27/08	Adult Carp	30	18.5	47.0	58.0	1644	М	5	4.04%	2.30
BL-IH-AC6-G, 8/27/08			16.5	41.9	36.0	1021	F	4/5	4.06%	2.05
BL-IH-AC7-G, 8/27/08]		18.5	47.0	47.0	1332	М	5	1.29%	0.890
BL-IH-AC8-G, 8/27/08			19.0	48.3	53.0	1503	F	5	0.630%	0.243
Mean Result for A	dult Carp		18.8	47.6	56.0	1588	NA	5.19	2.66%	3.16
Minimum Results for	r Adult Carp		16.5	41.9	36.0	1021	NA	4.00	0.630%	0.243
Maximum Results fo	r Adult Carp		23.0	58.4	112	3175	NA	7.00	4.06%	9.14
Standard Deviation for	or Adult Carp		2.28	5.79	25.5	724	NA	0.923	1.31%	2.81
Coefficient of Variation for Adult Carp			0.122	0.122	0.456	0.456	NA	0.178	0.491	0.889
Distribution for A	dult Carp					No	mal			
Upper 95% UCL for	Adult Carp		20.33	51.64	73.69	2089	NA	5.83	3.57%	5.05
	· T ···							, · · ·		
BL-IH-SB1-G, 8/27/08			15.0	38.1	31.0	879	M	6	0.680%	1.44
BL-IH-SB2-G, 8/27/08	1		14.0	35.6	26.0	737	F	5/6	0.855%	2.70
BL-IH-SB3-G, 8/27/08			12.0	30.5	16.0	454	M	4	0.935%	4.43
BL-IH-SB4-G, 8/27/08	Smallmouth	so	13.0	33.0	18.0	510	F	4	1.00%	3.10
BL-IH-SB5-G, 8/27/08	Bass		11.5	29.2	14.0	397	F	3	0.980%	4.18
BL-IH-SB6-G, 8/27/08]		11.0	27.9	13.0	369	F	3	1.13%	4.31
BL-IH-SB7-G, 8/27/08]		14.0	35.6	25.0	709	F	5	1.58%	3.91
BL-IH-SB8-G, 9/2/08	<u> </u>	<u></u>	17.0	43.2	46.0	1304	M	7/8	1.77%	2.83
Mean Result for Sma	llmouth Bass		13.4	34.1	23.6	670	NA	4.75	1.12%	3.36
Minimum Results for Si	nallmouth Base	S	11.0	27.9	13.0	369	NA	3.00	0.680%	1.44
Maximum Results for Smallmouth Bass			17.0	43.2	46.0	1304	NA	7.50	1.77%	4.43
Standard Deviation for Smallmouth Bass			1.99	5.05	11.1	314	NA	1.56	0.369%	1.04
Coefficient of Variation for	r Smallmouth E	Bass	0.148	0.148	0.469	0.469	NA	0.328	0.331	0.308
Distribution for Small						No	rmal			
Upper 95% UCL for Sn	nallmouth Bass	<u> </u>	14.82	37.63	31.30	887	NA	5.83	1.37%	4.06

FISH SAMPLE RESULTS - INNER HARBOR

Sample ID, Collection Date	Sample Type	Sample Form	Length (in)	Length (cm)	Weight (ounces)	Weight (grams)	Gender (M/F)	Age (Yr) ^I	Fat (%)	PCB (mg/kg)
BL-IH-CC1-G, 9/2/08 Channel Catfish SOF		20.5	52.1	54.0	1531	М	6	12.16%	19.4	
Mean Result for Channel Catfish			20.5	52.1	54.0	1531	NA	NA	12.16%	19.4
Minimum Results for C	Channel Catfish		20.5	52.1	54.0	1531	NA	NA	12.16%	19.4
Maximum Results for 0	Channel Catfish		20.5	52.1	54.0	1531	NA	NA	12.16%	19.4
Standard Deviation for	Channel Catfish	ו	NA	NA	NA	NA	NA	NA	NA	NA
Coefficient of Variation for Channel Catfish			NA	NA	NA	NA	NA	NA	NA	NA
Distribution for Channel Catfish			NA	NA	NA	NA	NA	NA	NA	NA
Upper 95% UCL for Channel Catfish			NA	NA	NA	NA	NA	NA	NA	NA

BL-1H-W1-G, 8/27/08			21.0	53.3	79.0	2240	М	6	3.71%	3.00
BL-IH-W2-G, 9/5/08	Walleye	so	21.0	53.3	72.0	2041	М	5/6	2.71%	1.36
BL-IH-W3-G, 9/5/08			22.0	55.9	81.0	2296	M	6	1.72%	1.74
Mean Result for	Walleye		21.3	54.2	77.3	2192	NA	5.83	2.71%	2.03
Minimum Results for	or Walleye		21.0	53.3	72.0	2041	NA	5.50	1.72%	1.36
Maximum Results f	or Walleye		22.0	55.9	81.0	2296	NA	6.00	3.71%	3.00
Standard Deviation 1	for Walleye	·	0.577	1.47	4.73	134	NA	0.289	1.00%	0.857
Coefficient of Variatio	n for Walleye		0.027	0.027	0.061	0.061	NA	0.049	0.367	0.422
Distribution for V	Walleye		To few samples to determine**							
Upper 95% UCL fo	or Walleye		21.99	55.85	82.68	2343.96	NA	6.16	3.84%	3.00

NA - Not applicable

SO - Scale off, skin on fillet

SOF - Skin off fillet

W - Whole fish

^{**} ProUCL could not determine. Based on the coefficient of variation being less than 1.0 and the majority of other data being normal, it was assumed to be normal and 95% UCL was determined accordingly.

Where fish ages were in between ages, a half age was applied for the calculations. For example: 4/5 would be 4.5 years.

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Appendix 2

Laboratory Analytical Reports

Baseline Upper and Lower River Fish Monitoring Report Appendix 2 Laboratory Analytical Reports CD Contents

Report Date	Lab Report # (CD Link)	Sample Locations
08/26/08	408210	Upper River 1
08/26/08	408211	Upper River 1 & 2
08/28/08	408330	Upper River 2
08/28/08	408328	Upper River 2, Lower River
09/03/08	408460	Lower River, Inner Harbor
09/05/08	408619	Lower River, Inner Harbor
09/09/08	408719	Upper River 1 & 2, Inner Harbor
09/09/08	408721	Upper River 2, Middle River 2
09/11/08	408870	Middle River 2
09/18/08	409156	Upper River 1, Middle River 1 & 2
09/18/08	409155	Middle River 1 & 2
09/19/08	409244	Middle River 1
09/19/08	409245	Upper River 1, Middle River 1

Note: Click on blue CD link to access the report in a new window.



October 15, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 03, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334 North Carolina Certification #: 503 North Carolina Certification #: 503 North Dakota Certification #: R-200 North Dakota Certification #: R-150 New York Certification #: 11888 New York Certification #: 11887 Illinois Certification #: 200051 Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

Page 2 of 31

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408460001	BL-LR-RB1-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460002	BL-LR-RB2-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460003	BL-LR-RB3-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460004	BL-LR-RB4-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460005	BL-LR-RB5-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460006	BL-LR-RB6-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460007	BL-LR-RB7-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460008	BL-LR-JWS2-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460009	BL-LR-JWS3-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460010	BL-LR-JWS4-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460011	BL-LR-RB8-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460012	BL-LR-RB9-G, 8/26/08	Tissue	08/26/08 00:00	09/03/08 15:40
408460013	BL-IH-SB1-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460014	BL-IH-SB2-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460015	BL-IH-SB3-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460016	BL-IH-SB4-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460017	BL-IH-SB5-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460018	BL-IH-W1-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460019	BL-IH-AC1-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40
408460020	BL-IH-AC2-G, 8/27/08	Tissue	08/27/08 00:00	09/03/08 15:40





SAMPLE ANALYTE COUNT

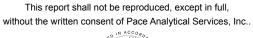
Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408460001	BL-LR-RB1-G, 8/26/08	EPA 8082	CAH	10
	ŕ	Pace Lipid	DAL	1
408460002	BL-LR-RB2-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460003	BL-LR-RB3-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460004	BL-LR-RB4-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460005	BL-LR-RB5-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460006	BL-LR-RB6-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460007	BL-LR-RB7-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460008	BL-LR-JWS2-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460009	BL-LR-JWS3-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460010	BL-LR-JWS4-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460011	BL-LR-RB8-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460012	BL-LR-RB9-G, 8/26/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460013	BL-IH-SB1-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460014	BL-IH-SB2-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460015	BL-IH-SB3-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460016	BL-IH-SB4-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460017	BL-IH-SB5-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460018	BL-IH-W1-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408460019	BL-IH-AC1-G, 8/27/08	EPA 8082	CAH	10

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	DAL	1
408460020	BL-IH-AC2-G, 8/27/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2722

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-IH-AC1-G, 8/27/08 (Lab ID: 408460019)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 79347)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 79348)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS This report shall not be reproduced, except in full,

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PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

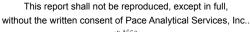
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





REPORT OF LABORATORY ANALYSIS



Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB1-G, 8/26/08 Lab ID: 408460001 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	53469-21-9	
PCB-1248 (Aroclor 1248)	844 (ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	12672-29-6	
PCB-1254 (Aroclor 1254)	820 ເ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	11097-69-1	
PCB-1260 (Aroclor 1260)	99.9J ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	11096-82-5	
PCB, Total	1760 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 06:52	1336-36-3	
Tetrachloro-m-xylene (S)	91 9	%	40-136		5	09/21/08 15:40	09/30/08 06:52	877-09-8	
Decachlorobiphenyl (S)	103 9	%	47-145		5	09/21/08 15:40	09/30/08 06:52	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.51	%		0.10	1		09/24/08 07:13		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB2-G, 8/26/08 Lab ID: 408460002 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	53469-21-9	
PCB-1248 (Aroclor 1248)	925 ι	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	12672-29-6	
PCB-1254 (Aroclor 1254)	917 u	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	11097-69-1	
PCB-1260 (Aroclor 1260)	104J և	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	11096-82-5	
PCB, Total	1950 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 07:17	1336-36-3	
Tetrachloro-m-xylene (S)	90 %	%	40-136		5	09/21/08 15:40	09/30/08 07:17	877-09-8	
Decachlorobiphenyl (S)	105 %	%	47-145		5	09/21/08 15:40	09/30/08 07:17	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.41 %	%		0.10	1		09/24/08 07:13		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB3-G, 8/26/08 Lab ID: 408460003 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<84.8 ≀	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<84.8 ≀	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<84.8 ≀	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<84.8 ≀	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	53469-21-9	
PCB-1248 (Aroclor 1248)	712 ι	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	12672-29-6	
PCB-1254 (Aroclor 1254)	686 ι	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<84.8 ≀	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	11096-82-5	
PCB, Total	1400 ւ	ıg/kg	223	84.8	3	09/21/08 15:40	09/30/08 07:43	1336-36-3	
Tetrachloro-m-xylene (S)	88 9	%	40-136		3	09/21/08 15:40	09/30/08 07:43	877-09-8	
Decachlorobiphenyl (S)	103 %	%	47-145		3	09/21/08 15:40	09/30/08 07:43	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.28	%		0.10	1		09/24/08 07:13		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB4-G, 8/26/08 Lab ID: 408460004 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepa	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<158 (ug/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<158 ≀	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<158 ι	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<158 t	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	53469-21-9	
PCB-1248 (Aroclor 1248)	2060 t	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	12672-29-6	
PCB-1254 (Aroclor 1254)	1850 ւ	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	11097-69-1	
PCB-1260 (Aroclor 1260)	194J ւ	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	11096-82-5	
PCB, Total	4110 ι	ıg/kg	416	158	5	09/21/08 15:40	09/30/08 08:09	1336-36-3	
Tetrachloro-m-xylene (S)	102 9	%	40-136		5	09/21/08 15:40	09/30/08 08:09	877-09-8	
Decachlorobiphenyl (S)	117 9	%	47-145		5	09/21/08 15:40	09/30/08 08:09	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.98	%		0.10	1		09/24/08 07:14		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB5-G, 8/26/08 Lab ID: 408460005 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 (ug/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	53469-21-9	
PCB-1248 (Aroclor 1248)	1700 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	12672-29-6	
PCB-1254 (Aroclor 1254)	1630 ເ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	11096-82-5	
PCB, Total	3330 ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 08:34	1336-36-3	
Tetrachloro-m-xylene (S)	90 9	%	40-136		10	09/21/08 15:40	09/30/08 08:34	877-09-8	
Decachlorobiphenyl (S)	110 9	%	47-145		10	09/21/08 15:40	09/30/08 08:34	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.98	%		0.10	1		09/24/08 07:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB6-G, 8/26/08 Lab ID: 408460006 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	53469-21-9	
PCB-1248 (Aroclor 1248)	946 u	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	12672-29-6	
PCB-1254 (Aroclor 1254)	899 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	11096-82-5	
PCB, Total	1840 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 09:00	1336-36-3	
Tetrachloro-m-xylene (S)	88 %	6	40-136		5	09/21/08 15:40	09/30/08 09:00	877-09-8	
Decachlorobiphenyl (S)	101 %	6	47-145		5	09/21/08 15:40	09/30/08 09:00	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.44 %	%		0.10	1		09/24/08 07:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB7-G, 8/26/08 Lab ID: 408460007 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<94.8 ≀	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<94.8 ≀	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<94.8 ≀	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<94.8 ≀	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	53469-21-9	
PCB-1248 (Aroclor 1248)	879 ι	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	12672-29-6	
PCB-1254 (Aroclor 1254)	756 ι	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	11097-69-1	
PCB-1260 (Aroclor 1260)	<94.8 ≀	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	11096-82-5	
PCB, Total	1630 ւ	ıg/kg	249	94.8	4	09/21/08 15:40	09/30/08 09:26	1336-36-3	
Tetrachloro-m-xylene (S)	95 %	%	40-136		4	09/21/08 15:40	09/30/08 09:26	877-09-8	
Decachlorobiphenyl (S)	105 %	%	47-145		4	09/21/08 15:40	09/30/08 09:26	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.39	%		0.10	1		09/24/08 07:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-JWS2-G, 8/26/08 Lab ID: 408460008 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EP/	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	12674-11-2	
PCB-1221 (Aroclor 1221)	< 76.0 ≀	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	11104-28-2	
PCB-1232 (Aroclor 1232)	< 76.0 ≀	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	11141-16-5	
PCB-1242 (Aroclor 1242)	< 76.0 ∪	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	53469-21-9	
PCB-1248 (Aroclor 1248)	739 ເ	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	12672-29-6	
PCB-1254 (Aroclor 1254)	818 ເ	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	11097-69-1	
PCB-1260 (Aroclor 1260)	77.8J ւ	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	11096-82-5	
PCB, Total	1640 ւ	ug/kg	200	76.0	4	09/21/08 15:40	09/30/08 09:51	1336-36-3	
Tetrachloro-m-xylene (S)	99 9	%	40-136		4	09/21/08 15:40	09/30/08 09:51	877-09-8	
Decachlorobiphenyl (S)	111 9	%	47-145		4	09/21/08 15:40	09/30/08 09:51	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.20	%		0.10	1		09/24/08 07:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-JWS3-G, 8/26/08 Lab ID: 408460009 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<27.4 ℓ	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<27.4 ∪	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<27.4 ∪	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<27.4 ∪	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	53469-21-9	
PCB-1248 (Aroclor 1248)	418 υ	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	12672-29-6	
PCB-1254 (Aroclor 1254)	264 u	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	11097-69-1	
PCB-1260 (Aroclor 1260)	31.7J և	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	11096-82-5	
PCB, Total	713 u	ıg/kg	72.1	27.4	1	09/21/08 15:40	09/30/08 11:09	1336-36-3	
Tetrachloro-m-xylene (S)	95 %	%	40-136		1	09/21/08 15:40	09/30/08 11:09	877-09-8	
Decachlorobiphenyl (S)	106 %	%	47-145		1	09/21/08 15:40	09/30/08 11:09	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.25 %	%		0.10	1		09/24/08 07:16		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-JWS4-G, 8/26/08 Lab ID: 408460010 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<35.9 ≀	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<35.9 ∪	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<35.9 ∪	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<35.9 ≀	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	53469-21-9	
PCB-1248 (Aroclor 1248)	291 ւ	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	12672-29-6	
PCB-1254 (Aroclor 1254)	296 u	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<35.9 ∪	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	11096-82-5	
PCB, Total	587 u	ıg/kg	94.4	35.9	1	09/21/08 15:40	09/30/08 11:34	1336-36-3	
Tetrachloro-m-xylene (S)	90 %	%	40-136		1	09/21/08 15:40	09/30/08 11:34	877-09-8	
Decachlorobiphenyl (S)	105 %	%	47-145		1	09/21/08 15:40	09/30/08 11:34	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	<0.10 %	%		0.10	1		09/24/08 07:16		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB8-G, 8/26/08 Lab ID: 408460011 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ∪	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ∪	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ∪	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	53469-21-9	
PCB-1248 (Aroclor 1248)	2310 և	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	12672-29-6	
PCB-1254 (Aroclor 1254)	1760 և	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	11097-69-1	
PCB-1260 (Aroclor 1260)	195J	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	11096-82-5	
PCB, Total	4270 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 12:00	1336-36-3	
Tetrachloro-m-xylene (S)	96 %	%	40-136		10	09/21/08 15:40	09/30/08 12:00	877-09-8	
Decachlorobiphenyl (S)	113 %	%	47-145		10	09/21/08 15:40	09/30/08 12:00	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.92 %	%		0.10	1		09/24/08 07:16		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-LR-RB9-G, 8/26/08 Lab ID: 408460012 Collected: 08/26/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<124 (ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<124 \	ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<124 t	ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<124 \	ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	53469-21-9	
PCB-1248 (Aroclor 1248)	1590 ւ	ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	12672-29-6	
PCB-1254 (Aroclor 1254)	1320 ι	ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	11097-69-1	
PCB-1260 (Aroclor 1260)	167J ւ	ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	11096-82-5	
PCB, Total	3070 (ug/kg	327	124	5	09/21/08 15:40	09/30/08 12:26	1336-36-3	
Tetrachloro-m-xylene (S)	99 9	%	40-136		5	09/21/08 15:40	09/30/08 12:26	877-09-8	
Decachlorobiphenyl (S)	116 9	%	47-145		5	09/21/08 15:40	09/30/08 12:26	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.30	%		0.10	1		09/24/08 07:17		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-SB1-G, 8/27/08 Lab ID: 408460013 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	53469-21-9	
PCB-1248 (Aroclor 1248)	776 ι	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	12672-29-6	
PCB-1254 (Aroclor 1254)	572 ι	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	11097-69-1	
PCB-1260 (Aroclor 1260)	93.4J ι	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	11096-82-5	
PCB, Total	1440 ւ	ıg/kg	200	76.0	4	09/21/08 15:40	09/30/08 12:51	1336-36-3	
Tetrachloro-m-xylene (S)	91 %	%	40-136		4	09/21/08 15:40	09/30/08 12:51	877-09-8	
Decachlorobiphenyl (S)	101 %	6	47-145		4	09/21/08 15:40	09/30/08 12:51	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.68	%		0.10	1		09/24/08 07:17		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-SB2-G, 8/27/08 Lab ID: 408460014 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	53469-21-9	
PCB-1248 (Aroclor 1248)	1470 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	12672-29-6	
PCB-1254 (Aroclor 1254)	1100 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	11097-69-1	
PCB-1260 (Aroclor 1260)	138J ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	11096-82-5	
PCB, Total	2700 ւ	ıg/kg	250	95.0	5	09/21/08 15:40	09/30/08 13:17	1336-36-3	
Tetrachloro-m-xylene (S)	95 %	%	40-136		5	09/21/08 15:40	09/30/08 13:17	877-09-8	
Decachlorobiphenyl (S)	107 9	%	47-145		5	09/21/08 15:40	09/30/08 13:17	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.86	%		0.10	1		09/24/08 07:17		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-SB3-G, 8/27/08 Lab ID: 408460015 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	53469-21-9	
PCB-1248 (Aroclor 1248)	2300 t	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	12672-29-6	
PCB-1254 (Aroclor 1254)	1900 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	11097-69-1	
PCB-1260 (Aroclor 1260)	227J ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	11096-82-5	
PCB, Total	4430 ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 13:43	1336-36-3	
Tetrachloro-m-xylene (S)	100 %	%	40-136		10	09/21/08 15:40	09/30/08 13:43	877-09-8	
Decachlorobiphenyl (S)	117 9	%	47-145		10	09/21/08 15:40	09/30/08 13:43	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.94	%		0.10	1		09/24/08 07:18		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-SB4-G, 8/27/08 Lab ID: 408460016 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 (ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	53469-21-9	
PCB-1248 (Aroclor 1248)	1800 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	12672-29-6	
PCB-1254 (Aroclor 1254)	1310 ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	11096-82-5	
PCB, Total	3100 t	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:09	1336-36-3	
Tetrachloro-m-xylene (S)	96 9	%	40-136		10	09/21/08 15:40	09/30/08 14:09	877-09-8	
Decachlorobiphenyl (S)	112 9	%	47-145		10	09/21/08 15:40	09/30/08 14:09	2051-24-3	
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	1.0	%		0.10	1		09/24/08 07:18		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-SB5-G, 8/27/08 Lab ID: 408460017 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ug/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 t	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	53469-21-9	
PCB-1248 (Aroclor 1248)	2490 t	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	12672-29-6	
PCB-1254 (Aroclor 1254)	1500 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	11097-69-1	
PCB-1260 (Aroclor 1260)	193J	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	11096-82-5	
PCB, Total	4180 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 14:34	1336-36-3	
Tetrachloro-m-xylene (S)	89 9	%	40-136		10	09/21/08 15:40	09/30/08 14:34	877-09-8	
Decachlorobiphenyl (S)	117 9	%	47-145		10	09/21/08 15:40	09/30/08 14:34	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.98	%		0.10	1		09/24/08 07:18		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-W1-G, 8/27/08 Lab ID: 408460018 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepai	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	53469-21-9	
PCB-1248 (Aroclor 1248)	1930 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	12672-29-6	
PCB-1254 (Aroclor 1254)	1070 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	11096-82-5	
PCB, Total	3000 u	g/kg	500	190	10	09/21/08 15:40	09/30/08 15:00	1336-36-3	
Tetrachloro-m-xylene (S)	98 %	6	40-136		10	09/21/08 15:40	09/30/08 15:00	877-09-8	
Decachlorobiphenyl (S)	117 %	6	47-145		10	09/21/08 15:40	09/30/08 15:00	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	3.7 %	6		0.10	1		09/24/08 07:18		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-AC1-G, 8/27/08 Lab ID: 408460019 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 €	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	53469-21-9	
PCB-1248 (Aroclor 1248)	5520 ι	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	12672-29-6	
PCB-1254 (Aroclor 1254)	3620 ι	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	11096-82-5	
PCB, Total	9140 ເ	ıg/kg	1500	570	30	09/21/08 15:40	09/30/08 15:26	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/21/08 15:40	09/30/08 15:26	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/21/08 15:40	09/30/08 15:26	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	3.8	%		0.10	1		09/24/08 07:19		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Sample: BL-IH-AC2-G, 8/27/08 Lab ID: 408460020 Collected: 08/27/08 00:00 Received: 09/03/08 15:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 (ug/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	53469-21-9	
PCB-1248 (Aroclor 1248)	2020 t	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	12672-29-6	
PCB-1254 (Aroclor 1254)	1200 ւ	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	11096-82-5	
PCB, Total	3210 ι	ıg/kg	500	190	10	09/21/08 15:40	09/30/08 15:51	1336-36-3	
Tetrachloro-m-xylene (S)	97 9	%	40-136		10	09/21/08 15:40	09/30/08 15:51	877-09-8	
Decachlorobiphenyl (S)	112 9	%	47-145		10	09/21/08 15:40	09/30/08 15:51	2051-24-3	
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	1.9	%		0.10	1		09/24/08 07:19		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

QC Batch: OEXT/2722 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408460001, 408460002, 408460003, 408460004, 408460005, 408460006, 408460007, 408460008, 408460009,

408460010, 408460011, 408460012, 408460013, 408460014, 408460015, 408460016, 408460017, 408460018,

408460019, 408460020

METHOD BLANK: 79345 Matrix: Tissue

Associated Lab Samples: 408460001, 408460002, 408460003, 408460004, 408460005, 408460006, 408460007, 408460008, 408460009,

408460010, 408460011, 408460012, 408460013, 408460014, 408460015, 408460016, 408460017, 408460018,

408460019, 408460020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	09/30/08 05:09	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	09/30/08 05:09	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	09/30/08 05:09	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	09/30/08 05:09	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	09/30/08 05:09	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	09/30/08 05:09	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	09/30/08 05:09	
Decachlorobiphenyl (S)	%	98	47-145	09/30/08 05:09	
Tetrachloro-m-xylene (S)	%	94	40-136	09/30/08 05:09	

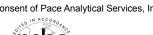
LABORATORY CONTROL SAMPLE:	79346					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<76.0			
PCB-1221 (Aroclor 1221)	ug/kg		<76.0			
PCB-1232 (Aroclor 1232)	ug/kg		<76.0			
PCB-1242 (Aroclor 1242)	ug/kg	1000	741	74	40-128	
PCB-1248 (Aroclor 1248)	ug/kg		<76.0			
PCB-1254 (Aroclor 1254)	ug/kg		<76.0			
PCB-1260 (Aroclor 1260)	ug/kg		<76.0			
Decachlorobiphenyl (S)	%			71	47-145	
Tetrachloro-m-xylene (S)	%			66	40-136	

MATRIX SPIKE & MATRIX SF	PIKE DUPLICAT	TE: 79347			79348							
			MS	MSD								
		408460013	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	- 			<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<76.0			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<76.0			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<76.0	4000	4000	4220	4210	106	105	43-130	.3	56	
PCB-1248 (Aroclor 1248)	ug/kg	776			<380	<380					56	
PCB-1254 (Aroclor 1254)	ug/kg	572			1170	1170				.2	56	
PCB-1260 (Aroclor 1260)	ug/kg	93.4J			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

QC Batch: OEXT/2746 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 408460001, 408460002, 408460003, 408460004, 408460005, 408460006, 408460007, 408460008, 408460009,

408460010, 408460011, 408460012, 408460013, 408460014, 408460015, 408460016, 408460017, 408460018,

408460019, 408460020

METHOD BLANK: 79862 Matrix: Tissue

Associated Lab Samples: 408460001, 408460002, 408460003, 408460004, 408460005, 408460006, 408460007, 408460008, 408460009,

408460010, 408460011, 408460012, 408460013, 408460014, 408460015, 408460016, 408460017, 408460018,

408460019, 408460020

Parameter Units Blank Reporting Result Limit Analyzed Qualifiers

% <0.10 09/24/08 07:12

SAMPLE DUPLICATE: 79863

Date: 10/15/2008 04:12 PM

Lipid

		408460013	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid	 %	0.68	0.83	20	20	





QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/15/2008 04:12 PM

Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408460

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408460001	BL-LR-RB1-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460002	BL-LR-RB2-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460003	BL-LR-RB3-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460004	BL-LR-RB4-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460005	BL-LR-RB5-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460006	BL-LR-RB6-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460007	BL-LR-RB7-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460008	BL-LR-JWS2-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460009	BL-LR-JWS3-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460010	BL-LR-JWS4-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460011	BL-LR-RB8-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460012	BL-LR-RB9-G, 8/26/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460013	BL-IH-SB1-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460014	BL-IH-SB2-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460015	BL-IH-SB3-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460016	BL-IH-SB4-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460017	BL-IH-SB5-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460018	BL-IH-W1-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460019	BL-IH-AC1-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460020	BL-IH-AC2-G, 8/27/08	EPA 3540	OEXT/2722	EPA 8082	GCSV/1937
408460001	BL-LR-RB1-G, 8/26/08	Pace Lipid	OEXT/2746		
408460002	BL-LR-RB2-G, 8/26/08	Pace Lipid	OEXT/2746		
408460003	BL-LR-RB3-G, 8/26/08	Pace Lipid	OEXT/2746		
408460004	BL-LR-RB4-G, 8/26/08	Pace Lipid	OEXT/2746		
408460005	BL-LR-RB5-G, 8/26/08	Pace Lipid	OEXT/2746		
408460006	BL-LR-RB6-G, 8/26/08	Pace Lipid	OEXT/2746		
408460007	BL-LR-RB7-G, 8/26/08	Pace Lipid	OEXT/2746		
408460008	BL-LR-JWS2-G, 8/26/08	Pace Lipid	OEXT/2746		
408460009	BL-LR-JWS3-G, 8/26/08	Pace Lipid	OEXT/2746		
408460010	BL-LR-JWS4-G, 8/26/08	Pace Lipid	OEXT/2746		
408460011	BL-LR-RB8-G, 8/26/08	Pace Lipid	OEXT/2746		
408460012	BL-LR-RB9-G, 8/26/08	Pace Lipid	OEXT/2746		
408460013	BL-IH-SB1-G, 8/27/08	Pace Lipid	OEXT/2746		
408460014	BL-IH-SB2-G, 8/27/08	Pace Lipid	OEXT/2746		
408460015	BL-IH-SB3-G, 8/27/08	Pace Lipid	OEXT/2746		
408460016	BL-IH-SB4-G, 8/27/08	Pace Lipid	OEXT/2746		
408460017	BL-IH-SB5-G, 8/27/08	Pace Lipid	OEXT/2746		
408460018	BL-IH-W1-G, 8/27/08	Pace Lipid	OEXT/2746		
408460019	BL-IH-AC1-G, 8/27/08	Pace Lipid	OEXT/2746		
408460020	BL-IH-AC2-G, 8/27/08	Pace Lipid	OEXT/2746		

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REPORT OF LABORATORY ANALYSIS

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October 15, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 05, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408619001	BL-IH-SB6-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619002	BL-IH-SB7-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619003	BL-IH-AC3-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619004	BL-IH-AC4-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619005	BL-IH-AC5-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619006	BL-IH-AC6-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619007	BL-IH-AC7-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619008	BL-IH-AC8-G, 8/27/08	Tissue	08/27/08 00:00	09/05/08 14:14
408619009	BL-IH-CC1-G, 9/2/08	Tissue	09/02/08 00:00	09/05/08 14:14
408619010	BL-IH-SB8-G, 9/2/08	Tissue	09/02/08 00:00	09/05/08 14:14
408619011	BL-LR-AC3-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14
408619012	BL-LR-AC4-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14
408619013	BL-LR-AC5-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14
408619014	BL-LR-AC6-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14
408619015	BL-LR-AC7-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14
408619016	BL-LR-AC8-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14
408619017	BL-LR-JWS5-G, 9/3/08	Tissue	09/03/08 00:00	09/05/08 14:14





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408619001	BL-IH-SB6-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619002	BL-IH-SB7-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619003	BL-IH-AC3-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619004	BL-IH-AC4-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619005	BL-IH-AC5-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619006	BL-IH-AC6-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619007	BL-IH-AC7-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619008	BL-IH-AC8-G, 8/27/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619009	BL-IH-CC1-G, 9/2/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619010	BL-IH-SB8-G, 9/2/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619011	BL-LR-AC3-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619012	BL-LR-AC4-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619013	BL-LR-AC5-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619014	BL-LR-AC6-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619015	BL-LR-AC7-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619016	BL-LR-AC8-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408619017	BL-LR-JWS5-G, 9/3/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

17 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2743

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-IH-AC4-G, 8/27/08 (Lab ID: 408619004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-IH-CC1-G, 9/2/08 (Lab ID: 408619009)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-IH-SB6-G, 8/27/08 (Lab ID: 408619001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-IH-SB7-G, 8/27/08 (Lab ID: 408619002)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-AC4-G, 9/3/08 (Lab ID: 408619012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-AC5-G, 9/3/08 (Lab ID: 408619013)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-AC6-G, 9/3/08 (Lab ID: 408619014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 79779)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 79780)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

QC Batch: OEXT/2743

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

Decachlorobiphenyl (S)Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2743

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 408619001

M0: Matrix spike recovery was outside laboratory control limits.

• MS (Lab ID: 79779)

• PCB-1242 (Aroclor 1242)

• MSD (Lab ID: 79780)

• PCB-1242 (Aroclor 1242)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

17 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

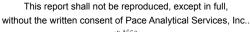
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





REPORT OF LABORATORY ANALYSIS



Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-SB6-G, 8/27/08 Lab ID: 408619001 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	53469-21-9	M0
PCB-1248 (Aroclor 1248)	2630 t	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	12672-29-6	
PCB-1254 (Aroclor 1254)	1680 ւ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	11096-82-5	
PCB, Total	4310 ι	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 05:36	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/23/08 15:25	10/01/08 05:36	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/23/08 15:25	10/01/08 05:36	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.1 9	%		0.10	1		09/25/08 09:47		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-SB7-G, 8/27/08 Lab ID: 408619002 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	53469-21-9	
PCB-1248 (Aroclor 1248)	2370 t	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	12672-29-6	
PCB-1254 (Aroclor 1254)	1530 ւ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	11096-82-5	
PCB, Total	3910 ւ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 06:04	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/23/08 15:25	10/01/08 06:04	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/23/08 15:25	10/01/08 06:04	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.6	%		0.10	1		09/25/08 09:47		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-AC3-G, 8/27/08 Lab ID: 408619003 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ug/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 t	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	53469-21-9	
PCB-1248 (Aroclor 1248)	1670 ເ	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	12672-29-6	
PCB-1254 (Aroclor 1254)	785 ι	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	11096-82-5	
PCB, Total	2460 t	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 06:32	1336-36-3	
Tetrachloro-m-xylene (S)	95 9	%	40-136		10	09/23/08 15:25	10/01/08 06:32	877-09-8	
Decachlorobiphenyl (S)	108 9	%	47-145		10	09/23/08 15:25	10/01/08 06:32	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	2.5	%		0.10	1		09/25/08 09:47		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-AC4-G, 8/27/08 Lab ID: 408619004 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	N 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	53469-21-9	
PCB-1248 (Aroclor 1248)	3520 ເ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	12672-29-6	
PCB-1254 (Aroclor 1254)	1490 ւ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	11096-82-5	
PCB, Total	5020 ι	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 07:00	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/23/08 15:25	10/01/08 07:00	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/23/08 15:25	10/01/08 07:00	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	3.0	%		0.10	1		09/25/08 09:48		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-AC5-G, 8/27/08 Lab ID: 408619005 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	53469-21-9	
PCB-1248 (Aroclor 1248)	1420	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	12672-29-6	
PCB-1254 (Aroclor 1254)	778 u	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	11097-69-1	
PCB-1260 (Aroclor 1260)	99.0J ւ	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	11096-82-5	
PCB, Total	2300 u	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:28	1336-36-3	
Tetrachloro-m-xylene (S)	98 %	6	40-136		5	09/23/08 15:25	10/01/08 07:28	877-09-8	
Decachlorobiphenyl (S)	106 %	6	47-145		5	09/23/08 15:25	10/01/08 07:28	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	4.0 %	6		0.10	1		09/25/08 09:53		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-AC6-G, 8/27/08 Lab ID: 408619006 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	53469-21-9	
PCB-1248 (Aroclor 1248)	1150 U	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	12672-29-6	
PCB-1254 (Aroclor 1254)	760 u	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	11097-69-1	
PCB-1260 (Aroclor 1260)	149J u	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	11096-82-5	
PCB, Total	2050 U	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 07:56	1336-36-3	
Tetrachloro-m-xylene (S)	91 %	%	40-136		5	09/23/08 15:25	10/01/08 07:56	877-09-8	
Decachlorobiphenyl (S)	104 %	%	47-145		5	09/23/08 15:25	10/01/08 07:56	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.1 9	%		0.10	1		09/25/08 09:53		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-AC7-G, 8/27/08 Lab ID: 408619007 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<57.0 ≀	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<57.0 ∪	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<57.0 ∪	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<57.0 ∪	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	53469-21-9	
PCB-1248 (Aroclor 1248)	596 ւ	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	12672-29-6	
PCB-1254 (Aroclor 1254)	295	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	11097-69-1	
PCB-1260 (Aroclor 1260)	<57.0 ∪	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	11096-82-5	
PCB, Total	890 ւ	ıg/kg	150	57.0	3	09/23/08 15:25	10/01/08 08:24	1336-36-3	
Tetrachloro-m-xylene (S)	91 %	%	40-136		3	09/23/08 15:25	10/01/08 08:24	877-09-8	
Decachlorobiphenyl (S)	96 %	%	47-145		3	09/23/08 15:25	10/01/08 08:24	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.3 %	%		0.10	1		09/25/08 09:53		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-AC8-G, 8/27/08 Lab ID: 408619008 Collected: 08/27/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<19.0 t	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<19.0 ι	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<19.0 ι	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<19.0 ι	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	53469-21-9	
PCB-1248 (Aroclor 1248)	134 ι	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	12672-29-6	
PCB-1254 (Aroclor 1254)	109 ւ	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<19.0 ι	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	11096-82-5	
PCB, Total	243 ι	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 09:48	1336-36-3	
Tetrachloro-m-xylene (S)	96 %	%	40-136		1	09/23/08 15:25	10/01/08 09:48	877-09-8	
Decachlorobiphenyl (S)	96 %	%	47-145		1	09/23/08 15:25	10/01/08 09:48	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.63	%		0.10	1		09/25/08 09:54		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-CC1-G, 9/2/08 Lab ID: 408619009 Collected: 09/02/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	53469-21-9	
PCB-1248 (Aroclor 1248)	11500 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	12672-29-6	
PCB-1254 (Aroclor 1254)	7810 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	11096-82-5	
PCB, Total	19400 ug	g/kg	5000	1900	100	09/23/08 15:25	10/01/08 10:16	1336-36-3	
Tetrachloro-m-xylene (S)	0 %)	40-136		100	09/23/08 15:25	10/01/08 10:16	877-09-8	S4
Decachlorobiphenyl (S)	0 %)	47-145		100	09/23/08 15:25	10/01/08 10:16	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	12.2 %)		0.10	1		09/25/08 09:54		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-IH-SB8-G, 9/2/08 Lab ID: 408619010 Collected: 09/02/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ug/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	53469-21-9	
PCB-1248 (Aroclor 1248)	1520 ւ	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	12672-29-6	
PCB-1254 (Aroclor 1254)	1090 ւ	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	11097-69-1	
PCB-1260 (Aroclor 1260)	221J ւ	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	11096-82-5	
PCB, Total	2830 t	ıg/kg	500	190	10	09/23/08 15:25	10/01/08 10:44	1336-36-3	
Tetrachloro-m-xylene (S)	95 9	%	40-136		10	09/23/08 15:25	10/01/08 10:44	877-09-8	
Decachlorobiphenyl (S)	102 9	%	47-145		10	09/23/08 15:25	10/01/08 10:44	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	1.8 %	%		0.10	1		09/25/08 09:54		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-AC3-G, 9/3/08 Lab ID: 408619011 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<19.0 U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<19.0 U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<19.0 U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<19.0 U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	53469-21-9	
PCB-1248 (Aroclor 1248)	243 U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	12672-29-6	
PCB-1254 (Aroclor 1254)	192 u	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	11097-69-1	
PCB-1260 (Aroclor 1260)	22.6J U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	11096-82-5	
PCB, Total	458 U	ıg/kg	50.0	19.0	1	09/23/08 15:25	10/01/08 11:12	1336-36-3	
Tetrachloro-m-xylene (S)	106 %	6	40-136		1	09/23/08 15:25	10/01/08 11:12	877-09-8	
Decachlorobiphenyl (S)	107 %	6	47-145		1	09/23/08 15:25	10/01/08 11:12	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	5.5 %	6		0.10	1		09/25/08 09:54		

Date: 10/15/2008 04:13 PM

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-AC4-G, 9/3/08 Lab ID: 408619012 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<3800 t	ug/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<3800 (ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<3800 (ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<3800 (ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	53469-21-9	
PCB-1248 (Aroclor 1248)	13200 (ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	12672-29-6	
PCB-1254 (Aroclor 1254)	27500 t	ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	11097-69-1	
PCB-1260 (Aroclor 1260)	4190J (ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	11096-82-5	
PCB, Total	44900 t	ıg/kg	10000	3800	200	09/23/08 15:25	10/01/08 11:40	1336-36-3	
Tetrachloro-m-xylene (S)	0 (%	40-136		200	09/23/08 15:25	10/01/08 11:40	877-09-8	S4
Decachlorobiphenyl (S)	0 '	%	47-145		200	09/23/08 15:25	10/01/08 11:40	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	9.0	%		0.10	1		09/25/08 09:55		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-AC5-G, 9/3/08 Lab ID: 408619013 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 (ug/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	53469-21-9	
PCB-1248 (Aroclor 1248)	10300 t	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	12672-29-6	
PCB-1254 (Aroclor 1254)	8150 ເ	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 เ	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	11096-82-5	
PCB, Total	18400 ເ	ıg/kg	5000	1900	100	09/23/08 15:25	10/01/08 12:09	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/23/08 15:25	10/01/08 12:09	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/23/08 15:25	10/01/08 12:09	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	6.4	%		0.10	1		09/25/08 09:55		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-AC6-G, 9/3/08 Lab ID: 408619014 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	53469-21-9	
PCB-1248 (Aroclor 1248)	3070 ι	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	12672-29-6	
PCB-1254 (Aroclor 1254)	1390 ւ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	11096-82-5	
PCB, Total	4460 ւ	ıg/kg	1000	380	20	09/23/08 15:25	10/01/08 12:37	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		20	09/23/08 15:25	10/01/08 12:37	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		20	09/23/08 15:25	10/01/08 12:37	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	3.6 %	%		0.10	1		09/25/08 09:55		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-AC7-G, 9/3/08 Lab ID: 408619015 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	53469-21-9	
PCB-1248 (Aroclor 1248)	1310 ເ	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	12672-29-6	
PCB-1254 (Aroclor 1254)	661 ເ	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	11096-82-5	
PCB, Total	1970 ւ	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:05	1336-36-3	
Tetrachloro-m-xylene (S)	87 9	%	40-136		5	09/23/08 15:25	10/01/08 13:05	877-09-8	
Decachlorobiphenyl (S)	95 9	%	47-145		5	09/23/08 15:25	10/01/08 13:05	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.82	%		0.10	1		09/25/08 09:55		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-AC8-G, 9/3/08 Lab ID: 408619016 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ∪	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	53469-21-9	
PCB-1248 (Aroclor 1248)	1200 ւ	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	12672-29-6	
PCB-1254 (Aroclor 1254)	682 ι	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	11096-82-5	
PCB, Total	1890 ւ	ıg/kg	250	95.0	5	09/23/08 15:25	10/01/08 13:33	1336-36-3	
Tetrachloro-m-xylene (S)	95 9	%	40-136		5	09/23/08 15:25	10/01/08 13:33	877-09-8	
Decachlorobiphenyl (S)	100 9	%	47-145		5	09/23/08 15:25	10/01/08 13:33	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	1.1 9	%		0.10	1		09/25/08 09:55		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Sample: BL-LR-JWS5-G, 9/3/08 Lab ID: 408619017 Collected: 09/03/08 00:00 Received: 09/05/08 14:14 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	N 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ∪	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ∖	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	53469-21-9	
PCB-1248 (Aroclor 1248)	584 (ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	12672-29-6	
PCB-1254 (Aroclor 1254)	384 ι	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ≀	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	11096-82-5	
PCB, Total	967 ເ	ıg/kg	200	76.0	4	09/23/08 15:25	10/01/08 14:01	1336-36-3	
Tetrachloro-m-xylene (S)	94 9	%	40-136		4	09/23/08 15:25	10/01/08 14:01	877-09-8	
Decachlorobiphenyl (S)	99 9	%	47-145		4	09/23/08 15:25	10/01/08 14:01	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.40	%		0.10	1		09/25/08 09:56		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

QC Batch: OEXT/2743 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408619001, 408619002, 408619003, 408619004, 408619005, 408619006, 408619007, 408619008, 408619009,

408619010, 408619011, 408619012, 408619013, 408619014, 408619015, 408619016, 408619017

METHOD BLANK: 79777 Matrix: Tissue

Associated Lab Samples: 408619001, 408619002, 408619003, 408619004, 408619005, 408619006, 408619007, 408619008, 408619009,

408619010, 408619011, 408619012, 408619013, 408619014, 408619015, 408619016, 408619017

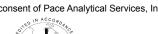
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/01/08 03:44	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/01/08 03:44	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/01/08 03:44	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/01/08 03:44	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/01/08 03:44	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/01/08 03:44	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/01/08 03:44	
Decachlorobiphenyl (S)	%	98	47-145	10/01/08 03:44	
Tetrachloro-m-xvlene (S)	%	97	40-136	10/01/08 03:44	

LABORATORY CONTROL SAMPLE:	79778					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
						Q
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg	250	264	105	40-128	
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg		<19.0			
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			96	47-145	
Tetrachloro-m-xylene (S)	%			96	40-136	

MATRIX SPIKE & MATRIX SF	PIKE DUPLICAT	E: 79779			79780							
		408619001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<380			<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<380			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<380			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<380	1000	1000	<380	<380	0	0	43-130		56	M0
PCB-1248 (Aroclor 1248)	ug/kg	2630			3960	3460				14	56	
PCB-1254 (Aroclor 1254)	ug/kg	1680			2220	1890				16	56	
PCB-1260 (Aroclor 1260)	ug/kg	<380			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

Date: 10/15/2008 04:13 PM REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

QC Batch: OEXT/2755 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 408619001, 408619002, 408619003, 408619004, 408619005, 408619006, 408619007, 408619008, 408619009,

408619010, 408619011, 408619012, 408619013, 408619014, 408619015, 408619016, 408619017

METHOD BLANK: 80012 Matrix: Tissue

%

Associated Lab Samples: 408619001, 408619002, 408619003, 408619004, 408619005, 408619006, 408619007, 408619008, 408619009,

< 0.10

408619010, 408619011, 408619012, 408619013, 408619014, 408619015, 408619016, 408619017

Blank Reporting

09/25/08 09:47

Parameter Units Result Limit Analyzed Qualifiers

SAMPLE DUPLICATE: 80013

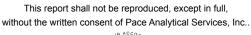
Date: 10/15/2008 04:13 PM

Lipid

		408619001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid	%	1.1	1.1	4	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/15/2008 04:13 PM

M0 Matrix spike recovery was outside laboratory control limits.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

This report shall not be reproduced, except in full,





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408619

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408619001	BL-IH-SB6-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619002	BL-IH-SB7-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619003	BL-IH-AC3-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619004	BL-IH-AC4-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619005	BL-IH-AC5-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619006	BL-IH-AC6-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619007	BL-IH-AC7-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619008	BL-IH-AC8-G, 8/27/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619009	BL-IH-CC1-G, 9/2/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619010	BL-IH-SB8-G, 9/2/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619011	BL-LR-AC3-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619012	BL-LR-AC4-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619013	BL-LR-AC5-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619014	BL-LR-AC6-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619015	BL-LR-AC7-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619016	BL-LR-AC8-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619017	BL-LR-JWS5-G, 9/3/08	EPA 3540	OEXT/2743	EPA 8082	GCSV/1925
408619001	BL-IH-SB6-G, 8/27/08	Pace Lipid	OEXT/2755		
408619002	BL-IH-SB7-G, 8/27/08	Pace Lipid	OEXT/2755		
408619003	BL-IH-AC3-G, 8/27/08	Pace Lipid	OEXT/2755		
408619004	BL-IH-AC4-G, 8/27/08	Pace Lipid	OEXT/2755		
408619005	BL-IH-AC5-G, 8/27/08	Pace Lipid	OEXT/2755		
408619006	BL-IH-AC6-G, 8/27/08	Pace Lipid	OEXT/2755		
408619007	BL-IH-AC7-G, 8/27/08	Pace Lipid	OEXT/2755		
408619008	BL-IH-AC8-G, 8/27/08	Pace Lipid	OEXT/2755		
408619009	BL-IH-CC1-G, 9/2/08	Pace Lipid	OEXT/2755		
408619010	BL-IH-SB8-G, 9/2/08	Pace Lipid	OEXT/2755		
408619011	BL-LR-AC3-G, 9/3/08	Pace Lipid	OEXT/2755		
408619012	BL-LR-AC4-G, 9/3/08	Pace Lipid	OEXT/2755		
408619013	BL-LR-AC5-G, 9/3/08	Pace Lipid	OEXT/2755		
408619014	BL-LR-AC6-G, 9/3/08	Pace Lipid	OEXT/2755		
408619015	BL-LR-AC7-G, 9/3/08	Pace Lipid	OEXT/2755		
408619016	BL-LR-AC8-G, 9/3/08	Pace Lipid	OEXT/2755		
408619017	BL-LR-JWS5-G, 9/3/08	Pace Lipid	OEXT/2755		

Date: 10/15/2008 04:13 PM

REPORT OF LABORATORY ANALYSIS

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October 17, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

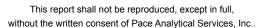
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Lab ID	Sample ID	Matrix	Date Collected	Date Received
409244001	BL-MR1-SB4-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244002	BL-MR1-SB5-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244003	BL-MR1-SB6-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244004	BL-MR1-SB7-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244005	BL-MR1-SB8-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244006	BL-MR1-W1-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244007	BL-MR1-W2-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244008	BL-MR1-W3-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244009	BL-MR1-W4-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244010	BL-MR1-W5-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244011	BL-MR1-W6-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244012	BL-MR1-W7-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244013	BL-MR1-W8-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244014	BL-MR1-AWS1-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244015	BL-MR1-AWS2-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244016	BL-MR1-AWS3-G, 9/16/08	Tissue	09/16/08 00:00	09/19/08 13:40
409244017	BL-MR1-AWS4-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409244018	BL-MR1-AWS5-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409244019	BL-MR1-AWS6-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409244020	BL-MR1-AWS7-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Lab ID	Sample ID	Method	Analysts	Analytes Reported
409244001	BL-MR1-SB4-G, 9/16/08	EPA 8082		10
		Pace Lipid	DAL	1
409244002	BL-MR1-SB5-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244003	BL-MR1-SB6-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244004	BL-MR1-SB7-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244005	BL-MR1-SB8-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244006	BL-MR1-W1-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244007	BL-MR1-W2-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244008	BL-MR1-W3-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244009	BL-MR1-W4-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244010	BL-MR1-W5-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244011	BL-MR1-W6-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244012	BL-MR1-W7-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244013	BL-MR1-W8-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244014	BL-MR1-AWS1-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244015	BL-MR1-AWS2-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244016	BL-MR1-AWS3-G, 9/16/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244017	BL-MR1-AWS4-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244018	BL-MR1-AWS5-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1
409244019	BL-MR1-AWS6-G, 9/17/08	EPA 8082	BDS	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	DAL	1
409244020	BL-MR1-AWS7-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	DAL	1





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2811

- S4: Surrogate recovery not evaluated against control limits due to sample dilution.
 - BL-MR1-AWS2-G, 9/16/08 (Lab ID: 409244015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-AWS4-G, 9/17/08 (Lab ID: 409244017)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-AWS5-G, 9/17/08 (Lab ID: 409244018)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-AWS6-G, 9/17/08 (Lab ID: 409244019)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-AWS7-G, 9/17/08 (Lab ID: 409244020)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-SB4-G, 9/16/08 (Lab ID: 409244001)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-SB5-G, 9/16/08 (Lab ID: 409244002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-SB6-G, 9/16/08 (Lab ID: 409244003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR1-SB7-G, 9/16/08 (Lab ID: 409244004)

REPORT OF LABORATORY ANALYSIS

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

QC Batch: OEXT/2811

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

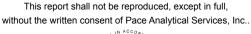
- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-MR1-SB8-G, 9/16/08 (Lab ID: 409244005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W1-G, 9/16/08 (Lab ID: 409244006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W2-G, 9/16/08 (Lab ID: 409244007)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W3-G, 9/16/08 (Lab ID: 409244008)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W4-G, 9/16/08 (Lab ID: 409244009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W5-G, 9/16/08 (Lab ID: 409244010)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W6-G, 9/16/08 (Lab ID: 409244011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W7-G, 9/16/08 (Lab ID: 409244012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-W8-G, 9/16/08 (Lab ID: 409244013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 82622)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 82623)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.



REPORT OF LABORATORY ANALYSIS







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2811

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 409244001

M0: Matrix spike recovery was outside laboratory control limits.

• MS (Lab ID: 82622)

• PCB-1242 (Aroclor 1242)

• MSD (Lab ID: 82623)

• PCB-1242 (Aroclor 1242)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-SB4-G, 9/16/08 Lab ID: 409244001 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<380 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	53469-21-9	M0
PCB-1248 (Aroclor 1248)	2460 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	12672-29-6	
PCB-1254 (Aroclor 1254)	1750 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	11096-82-5	
PCB, Total	4200 u	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:25	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/30/08 13:33	10/13/08 17:25	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/30/08 13:33	10/13/08 17:25	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.82 %	6		0.10	1		10/06/08 08:01		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-SB5-G, 9/16/08 Lab ID: 409244002 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	53469-21-9	
PCB-1248 (Aroclor 1248)	4030 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	12672-29-6	
PCB-1254 (Aroclor 1254)	3430 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	11096-82-5	
PCB, Total	7460 t	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 17:53	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/30/08 13:33	10/13/08 17:53	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/30/08 13:33	10/13/08 17:53	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.76	%		0.10	1		10/06/08 08:04		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-SB6-G, 9/16/08 Lab ID: 409244003 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	53469-21-9	
PCB-1248 (Aroclor 1248)	4970 ւ	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	12672-29-6	
PCB-1254 (Aroclor 1254)	4320 ι	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	11096-82-5	
PCB, Total	9290 ເ	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 18:21	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/30/08 13:33	10/13/08 18:21	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/30/08 13:33	10/13/08 18:21	2051-24-3	S4
Lipid	Analytica	Method: Pac	ce Lipid						
Lipid	0.68	%		0.10	1		10/06/08 08:04		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-SB7-G, 9/16/08 Lab ID: 409244004 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 (ug/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	53469-21-9	
PCB-1248 (Aroclor 1248)	9770 ເ	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	12672-29-6	
PCB-1254 (Aroclor 1254)	8450 เ	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	11096-82-5	
PCB, Total	18200 ւ	ıg/kg	5000	1900	100	09/30/08 13:33	10/13/08 18:49	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/30/08 13:33	10/13/08 18:49	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/30/08 13:33	10/13/08 18:49	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	1.3 9	%		0.10	1		10/06/08 08:05		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-SB8-G, 9/16/08 Lab ID: 409244005 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical N	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	53469-21-9	
PCB-1248 (Aroclor 1248)	2820 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	12672-29-6	
PCB-1254 (Aroclor 1254)	2150 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	11096-82-5	
PCB, Total	4970 ug	/kg	1000	380	20	09/30/08 13:33	10/13/08 19:18	1336-36-3	
Tetrachloro-m-xylene (S)	0 %		40-136		20	09/30/08 13:33	10/13/08 19:18	877-09-8	S4
Decachlorobiphenyl (S)	0 %		47-145		20	09/30/08 13:33	10/13/08 19:18	2051-24-3	S4
Lipid	Analytical N	Method: Pac	e Lipid						
Lipid	0.83 %			0.10	1		10/06/08 08:06		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W1-G, 9/16/08 Lab ID: 409244006 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 (ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	53469-21-9	
PCB-1248 (Aroclor 1248)	10200 ւ	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	12672-29-6	
PCB-1254 (Aroclor 1254)	6650 ι	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	11096-82-5	
PCB, Total	16800 ເ	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 19:46	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/30/08 13:33	10/13/08 19:46	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/30/08 13:33	10/13/08 19:46	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	2.3	%		0.10	1		10/06/08 08:06		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W2-G, 9/16/08 Lab ID: 409244007 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	53469-21-9	
PCB-1248 (Aroclor 1248)	10600 և	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	12672-29-6	
PCB-1254 (Aroclor 1254)	5690 ւ	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	11096-82-5	
PCB, Total	16300 ւ	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 20:14	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		50	09/30/08 13:33	10/13/08 20:14	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		50	09/30/08 13:33	10/13/08 20:14	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	2.1 %	%		0.10	1		10/06/08 08:06		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W3-G, 9/16/08 Lab ID: 409244008 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	53469-21-9	
PCB-1248 (Aroclor 1248)	2980 t	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	12672-29-6	
PCB-1254 (Aroclor 1254)	2600 t	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	11096-82-5	
PCB, Total	5580 ι	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 20:42	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/30/08 13:33	10/13/08 20:42	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/30/08 13:33	10/13/08 20:42	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.60	%		0.10	1		10/06/08 08:07		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W4-G, 9/16/08 Lab ID: 409244009 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	53469-21-9	
PCB-1248 (Aroclor 1248)	8300 u	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	12672-29-6	
PCB-1254 (Aroclor 1254)	5430 ι	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	11096-82-5	
PCB, Total	13700 և	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 22:06	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		50	09/30/08 13:33	10/13/08 22:06	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		50	09/30/08 13:33	10/13/08 22:06	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.5 %	%		0.10	1		10/06/08 08:07		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W5-G, 9/16/08 Lab ID: 409244010 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	53469-21-9	
PCB-1248 (Aroclor 1248)	4630 U	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	12672-29-6	
PCB-1254 (Aroclor 1254)	3300 U	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	11096-82-5	
PCB, Total	7930 U	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 22:35	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/30/08 13:33	10/13/08 22:35	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		30	09/30/08 13:33	10/13/08 22:35	2051-24-3	S4
Lipid	Analytical	Method: Pac	ce Lipid						
Lipid	0.70 %	%		0.10	1		10/06/08 08:07		

Date: 10/17/2008 03:47 PM REPORT OF LABORATORY ANALYSIS

consent of Pace Analytical Services, Inc





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W6-G, 9/16/08 Lab ID: 409244011 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 (ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	53469-21-9	
PCB-1248 (Aroclor 1248)	8620 t	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	12672-29-6	
PCB-1254 (Aroclor 1254)	5630 ι	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	11096-82-5	
PCB, Total	14300 ւ	ıg/kg	2500	950	50	09/30/08 13:33	10/13/08 23:03	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/30/08 13:33	10/13/08 23:03	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/30/08 13:33	10/13/08 23:03	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.6	%		0.10	1		10/06/08 08:07		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W7-G, 9/16/08 Lab ID: 409244012 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	53469-21-9	
PCB-1248 (Aroclor 1248)	3130 ι	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	12672-29-6	
PCB-1254 (Aroclor 1254)	2900 ເ	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	11096-82-5	
PCB, Total	6030 t	ıg/kg	1000	380	20	09/30/08 13:33	10/13/08 23:31	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/30/08 13:33	10/13/08 23:31	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		20	09/30/08 13:33	10/13/08 23:31	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.46	%		0.10	1		10/06/08 08:08		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-W8-G, 9/16/08 Lab ID: 409244013 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	53469-21-9	
PCB-1248 (Aroclor 1248)	4980 ւ	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	12672-29-6	
PCB-1254 (Aroclor 1254)	3440 (ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	11096-82-5	
PCB, Total	8410 ເ	ıg/kg	1500	570	30	09/30/08 13:33	10/13/08 23:59	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/30/08 13:33	10/13/08 23:59	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/30/08 13:33	10/13/08 23:59	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.0	%		0.10	1		10/06/08 08:08		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS1-G, 9/16/08 Lab ID: 409244014 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ∪	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ∪	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	53469-21-9	
PCB-1248 (Aroclor 1248)	2380 u	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	12672-29-6	
PCB-1254 (Aroclor 1254)	1350 և	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ∪	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	11096-82-5	
PCB, Total	3720	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 00:27	1336-36-3	
Tetrachloro-m-xylene (S)	81 %	6	40-136		10	09/30/08 13:33	10/14/08 00:27	877-09-8	
Decachlorobiphenyl (S)	90 %	%	47-145		10	09/30/08 13:33	10/14/08 00:27	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.87 %	%		0.10	1		10/06/08 08:08		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS2-G, 9/16/08 Lab ID: 409244015 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	53469-21-9	
PCB-1248 (Aroclor 1248)	7080 ს	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	12672-29-6	
PCB-1254 (Aroclor 1254)	4750 և	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ∪	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	11096-82-5	
PCB, Total	11800 և	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 00:55	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/30/08 13:33	10/14/08 00:55	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/30/08 13:33	10/14/08 00:55	2051-24-3	S4
Lipid	Analytical	Method: Pac	ce Lipid						
Lipid	1.3 %	%		0.10	1		10/06/08 08:08		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS3-G, 9/16/08 Lab ID: 409244016 Collected: 09/16/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	53469-21-9	
PCB-1248 (Aroclor 1248)	2090 ւ	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	12672-29-6	
PCB-1254 (Aroclor 1254)	1150 ւ	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	11096-82-5	
PCB, Total	3240 t	ıg/kg	500	190	10	09/30/08 13:33	10/14/08 01:23	1336-36-3	
Tetrachloro-m-xylene (S)	88 9	%	40-136		10	09/30/08 13:33	10/14/08 01:23	877-09-8	
Decachlorobiphenyl (S)	96 %	%	47-145		10	09/30/08 13:33	10/14/08 01:23	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.74	%		0.10	1		10/06/08 08:08		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS4-G, 9/17/08 Lab ID: 409244017 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	53469-21-9	
PCB-1248 (Aroclor 1248)	11000 (ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	12672-29-6	
PCB-1254 (Aroclor 1254)	8830 (ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	11096-82-5	
PCB, Total	19900 ւ	ıg/kg	5000	1900	100	09/30/08 13:33	10/14/08 01:51	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/30/08 13:33	10/14/08 01:51	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/30/08 13:33	10/14/08 01:51	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.80	%		0.10	1		10/06/08 08:09		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS5-G, 9/17/08 Lab ID: 409244018 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	53469-21-9	
PCB-1248 (Aroclor 1248)	5700 ι	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	12672-29-6	
PCB-1254 (Aroclor 1254)	3090 t	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	11096-82-5	
PCB, Total	8790 ւ	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 02:20	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/30/08 13:33	10/14/08 02:20	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/30/08 13:33	10/14/08 02:20	2051-24-3	S4
Lipid	Analytical	Method: Pac	ce Lipid						
Lipid	1.5 %	%		0.10	1		10/06/08 08:09		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS6-G, 9/17/08 Lab ID: 409244019 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	53469-21-9	
PCB-1248 (Aroclor 1248)	2690 (ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	12672-29-6	
PCB-1254 (Aroclor 1254)	2000 t	ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	11096-82-5	
PCB, Total	4680 ւ	ıg/kg	1000	380	20	09/30/08 13:33	10/14/08 02:48	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/30/08 13:33	10/14/08 02:48	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/30/08 13:33	10/14/08 02:48	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.70	%		0.10	1		10/06/08 08:09		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Sample: BL-MR1-AWS7-G, 9/17/08 Lab ID: 409244020 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	53469-21-9	
PCB-1248 (Aroclor 1248)	5600 (ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	12672-29-6	
PCB-1254 (Aroclor 1254)	3630 t	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	11096-82-5	
PCB, Total	9230 t	ıg/kg	1500	570	30	09/30/08 13:33	10/14/08 03:16	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/30/08 13:33	10/14/08 03:16	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/30/08 13:33	10/14/08 03:16	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.0	%		0.10	1		10/06/08 08:09		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

QC Batch: OEXT/2811 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 409244001, 409244002, 409244003, 409244004, 409244005, 409244006, 409244007, 409244008, 409244009,

409244010, 409244011, 409244012, 409244013, 409244014, 409244015, 409244016, 409244017, 409244018,

409244019, 409244020

METHOD BLANK: 82620 Matrix: Tissue

Associated Lab Samples: 409244001, 409244002, 409244003, 409244004, 409244005, 409244006, 409244007, 409244008, 409244009,

 $409244010,\,409244011,\,409244012,\,409244013,\,409244014,\,409244015,\,409244016,\,409244017,\,409244018,$

409244019, 409244020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/13/08 15:32	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/13/08 15:32	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/13/08 15:32	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/13/08 15:32	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/13/08 15:32	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/13/08 15:32	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/13/08 15:32	
Decachlorobiphenyl (S)	%	93	47-145	10/13/08 15:32	
Tetrachloro-m-xylene (S)	%	93	40-136	10/13/08 15:32	

LABORATORY CONTROL SAMPLE:	82621					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg	250	253	101	40-128	
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg		<19.0			
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			90	47-145	
Tetrachloro-m-xylene (S)	%			94	40-136	

		409244001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<380			<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<380			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<380			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<380	1000	1000	<380	<380	0	0	43-130		56	M0
PCB-1248 (Aroclor 1248)	ug/kg	2460			3780	3700				2	56	
PCB-1254 (Aroclor 1254)	ug/kg	1750			2030	2000				1	56	
PCB-1260 (Aroclor 1260)	ug/kg	<380			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

Date: 10/17/2008 03:47 PM REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 409244

QC Batch: OEXT/2847 Analysis Method: Pace Lipid QC Batch Method: Pace Lipid Analysis Description:

409244001, 409244002, 409244003, 409244004, 409244005, 409244006, 409244007, 409244008, 409244009, Associated Lab Samples:

409244010, 409244011, 409244012, 409244013, 409244014, 409244015, 409244016, 409244017, 409244018,

409244019, 409244020

METHOD BLANK: 84394 Matrix: Tissue

Associated Lab Samples: 409244001, 409244002, 409244003, 409244004, 409244005, 409244006, 409244007, 409244008, 409244009,

409244010, 409244011, 409244012, 409244013, 409244014, 409244015, 409244016, 409244017, 409244018,

409244019, 409244020

Blank Reporting Analyzed Parameter Units Result Limit Qualifiers % 10/06/08 08:01 < 0.10

SAMPLE DUPLICATE: 84395

Date: 10/17/2008 03:47 PM

Lipid

		409244001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid		0.82	0.91		20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/17/2008 03:47 PM

M0 Matrix spike recovery was outside laboratory control limits.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409244

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
409244001	BL-MR1-SB4-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244002	BL-MR1-SB5-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244003	BL-MR1-SB6-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244004	BL-MR1-SB7-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244005	BL-MR1-SB8-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244006	BL-MR1-W1-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244007	BL-MR1-W2-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244008	BL-MR1-W3-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244009	BL-MR1-W4-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244010	BL-MR1-W5-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244011	BL-MR1-W6-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244012	BL-MR1-W7-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244013	BL-MR1-W8-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244014	BL-MR1-AWS1-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244015	BL-MR1-AWS2-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244016	BL-MR1-AWS3-G, 9/16/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244017	BL-MR1-AWS4-G, 9/17/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244018	BL-MR1-AWS5-G, 9/17/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244019	BL-MR1-AWS6-G, 9/17/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244020	BL-MR1-AWS7-G, 9/17/08	EPA 3540	OEXT/2811	EPA 8082	GCSV/1970
409244001	BL-MR1-SB4-G, 9/16/08	Pace Lipid	OEXT/2847		
409244002	BL-MR1-SB5-G, 9/16/08	Pace Lipid	OEXT/2847		
409244003	BL-MR1-SB6-G, 9/16/08	Pace Lipid	OEXT/2847		
409244004	BL-MR1-SB7-G, 9/16/08	Pace Lipid	OEXT/2847		
409244005	BL-MR1-SB8-G, 9/16/08	Pace Lipid	OEXT/2847		
409244006	BL-MR1-W1-G, 9/16/08	Pace Lipid	OEXT/2847		
409244007	BL-MR1-W2-G, 9/16/08	Pace Lipid	OEXT/2847		
409244008	BL-MR1-W3-G, 9/16/08	Pace Lipid	OEXT/2847		
409244009	BL-MR1-W4-G, 9/16/08	Pace Lipid	OEXT/2847		
409244010	BL-MR1-W5-G, 9/16/08	Pace Lipid	OEXT/2847		
409244011	BL-MR1-W6-G, 9/16/08	Pace Lipid	OEXT/2847		
409244012	BL-MR1-W7-G, 9/16/08	Pace Lipid	OEXT/2847		
409244013	BL-MR1-W8-G, 9/16/08	Pace Lipid	OEXT/2847		
409244014	BL-MR1-AWS1-G, 9/16/08	Pace Lipid	OEXT/2847		
409244015	BL-MR1-AWS2-G, 9/16/08	Pace Lipid	OEXT/2847		
409244016	BL-MR1-AWS3-G, 9/16/08	Pace Lipid	OEXT/2847		
409244017	BL-MR1-AWS4-G, 9/17/08	Pace Lipid	OEXT/2847		
409244018	BL-MR1-AWS5-G, 9/17/08	Pace Lipid	OEXT/2847		
409244019	BL-MR1-AWS6-G, 9/17/08	Pace Lipid	OEXT/2847		
409244020	BL-MR1-AWS7-G, 9/17/08	Pace Lipid	OEXT/2847		

Date: 10/17/2008 03:47 PM

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October 17, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Lab ID	Sample ID	Matrix	Date Collected	Date Received
409155001	BL-MR2-RB6-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155002	BL-MR2-RB7-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155003	BL-MR2-RB8-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155004	BL-MR2-AC1-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155005	BL-MR2-JWS3-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155006	BL-MR2-JWS4-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155007	BL-MR2-JWS5-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155008	BL-MR2-JWS6-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155009	BL-MR2-JWS7-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409155010	BL-MR1-AC1-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155011	BL-MR1-AC2-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155012	BL-MR1-AC3-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155013	BL-MR1-AC4-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155014	BL-MR1-AC5-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155015	BL-MR1-AC6-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155016	BL-MR1-AC7-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155017	BL-MR1-AC8-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155018	BL-MR1-SB1-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155019	BL-MR1-SB2-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05
409155020	BL-MR1-SB3-G, 9/16/08	Tissue	09/16/08 00:00	09/18/08 13:05





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Lab ID	Sample ID	Method	Analysts	Analytes Reported
409155001	BL-MR2-RB6-G, 9/15/08	EPA 8082	CAH	10
	·	Pace Lipid	DAL	1
409155002	BL-MR2-RB7-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155003	BL-MR2-RB8-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155004	BL-MR2-AC1-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155005	BL-MR2-JWS3-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155006	BL-MR2-JWS4-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155007	BL-MR2-JWS5-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155008	BL-MR2-JWS6-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155009	BL-MR2-JWS7-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155010	BL-MR1-AC1-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155011	BL-MR1-AC2-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155012	BL-MR1-AC3-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155013	BL-MR1-AC4-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155014	BL-MR1-AC5-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155015	BL-MR1-AC6-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155016	BL-MR1-AC7-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155017	BL-MR1-AC8-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155018	BL-MR1-SB1-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409155019	BL-MR1-SB2-G, 9/16/08	EPA 8082	CAH	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	DAL	1
409155020	BL-MR1-SB3-G, 9/16/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2810

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-MR1-AC8-G, 9/16/08 (Lab ID: 409155017)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-SB1-G, 9/16/08 (Lab ID: 409155018)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-SB2-G, 9/16/08 (Lab ID: 409155019)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-SB3-G, 9/16/08 (Lab ID: 409155020)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.









Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

QC Batch: OEXT/2810

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 409155004

M0: Matrix spike recovery was outside laboratory control limits.

• MS (Lab ID: 82618)

• PCB-1242 (Aroclor 1242)

• MSD (Lab ID: 82619)

• PCB-1242 (Aroclor 1242)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-RB6-G, 9/15/08 Lab ID: 409155001 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<248 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<248 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<248 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<248 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	53469-21-9	
PCB-1248 (Aroclor 1248)	1890 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	12672-29-6	
PCB-1254 (Aroclor 1254)	1820 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	11097-69-1	
PCB-1260 (Aroclor 1260)	<248 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	11096-82-5	
PCB, Total	3700 u	ıg/kg	654	248	10	09/30/08 13:30	10/10/08 00:26	1336-36-3	
Tetrachloro-m-xylene (S)	88 %	6	40-136		10	09/30/08 13:30	10/10/08 00:26	877-09-8	
Decachlorobiphenyl (S)	100 %	6	47-145		10	09/30/08 13:30	10/10/08 00:26	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.3 %	6		0.10	1		10/06/08 07:54		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-RB7-G, 9/15/08 Lab ID: 409155002 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepa	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<122 (ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<122 \	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<122 \	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<122 \	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	53469-21-9	
PCB-1248 (Aroclor 1248)	1150 ւ	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	12672-29-6	
PCB-1254 (Aroclor 1254)	1130 ւ	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<122 \	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	11096-82-5	
PCB, Total	2270 t	ıg/kg	321	122	5	09/30/08 13:30	10/10/08 00:52	1336-36-3	
Tetrachloro-m-xylene (S)	76 °	%	40-136		5	09/30/08 13:30	10/10/08 00:52	877-09-8	
Decachlorobiphenyl (S)	85 9	%	47-145		5	09/30/08 13:30	10/10/08 00:52	2051-24-3	
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	0.58	%		0.10	1		10/06/08 07:54		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-RB8-G, 9/15/08 Lab ID: 409155003 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 (ug/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	53469-21-9	
PCB-1248 (Aroclor 1248)	1090 ւ	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	12672-29-6	
PCB-1254 (Aroclor 1254)	1110 ເ	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	11096-82-5	
PCB, Total	2200 t	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 01:18	1336-36-3	
Tetrachloro-m-xylene (S)	88 9	%	40-136		10	09/30/08 13:30	10/10/08 01:18	877-09-8	
Decachlorobiphenyl (S)	102 9	%	47-145		10	09/30/08 13:30	10/10/08 01:18	2051-24-3	
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	0.50	%		0.10	1		10/06/08 07:55		

Date: 10/17/2008 03:48 PM

REPORT OF LABORATORY ANALYSIS





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-AC1-G, 9/15/08 Lab ID: 409155004 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	N 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ∖	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ∖	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	53469-21-9	M0
PCB-1248 (Aroclor 1248)	768 (ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	12672-29-6	
PCB-1254 (Aroclor 1254)	506 ເ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ∖	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	11096-82-5	
PCB, Total	1270 ເ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 01:44	1336-36-3	
Tetrachloro-m-xylene (S)	80 9	%	40-136		4	09/30/08 13:30	10/10/08 01:44	877-09-8	
Decachlorobiphenyl (S)	90 9	%	47-145		4	09/30/08 13:30	10/10/08 01:44	2051-24-3	
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	0.73	%		0.10	1		10/06/08 15:41		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-JWS3-G, 9/15/08 Lab ID: 409155005 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	53469-21-9	
PCB-1248 (Aroclor 1248)	972 ι	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	12672-29-6	
PCB-1254 (Aroclor 1254)	792 ι	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	11096-82-5	
PCB, Total	1760 ւ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 02:10	1336-36-3	
Tetrachloro-m-xylene (S)	87 9	%	40-136		4	09/30/08 13:30	10/10/08 02:10	877-09-8	
Decachlorobiphenyl (S)	94 %	%	47-145		4	09/30/08 13:30	10/10/08 02:10	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.74	%		0.10	1		10/06/08 07:56		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-JWS4-G, 9/15/08 Lab ID: 409155006 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<57.0 ≀	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<57.0 ≀	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<57.0 ≀	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<57.0 ≀	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	53469-21-9	
PCB-1248 (Aroclor 1248)	696 ւ	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	12672-29-6	
PCB-1254 (Aroclor 1254)	439 ι	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<57.0 ≀	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	11096-82-5	
PCB, Total	1130 ւ	ıg/kg	150	57.0	3	09/30/08 13:30	10/10/08 02:36	1336-36-3	
Tetrachloro-m-xylene (S)	87 9	%	40-136		3	09/30/08 13:30	10/10/08 02:36	877-09-8	
Decachlorobiphenyl (S)	95 %	%	47-145		3	09/30/08 13:30	10/10/08 02:36	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.58 %	%		0.10	1		10/06/08 07:56		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-JWS5-G, 9/15/08 Lab ID: 409155007 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<38.0 (ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<38.0 ≀	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<38.0 ≀	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<38.0 ≀	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	53469-21-9	
PCB-1248 (Aroclor 1248)	474 ι	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	12672-29-6	
PCB-1254 (Aroclor 1254)	462 ι	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	11097-69-1	
PCB-1260 (Aroclor 1260)	44.4J ւ	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	11096-82-5	
PCB, Total	980 ເ	ıg/kg	100	38.0	2	09/30/08 13:30	10/10/08 03:01	1336-36-3	
Tetrachloro-m-xylene (S)	91 9	%	40-136		2	09/30/08 13:30	10/10/08 03:01	877-09-8	
Decachlorobiphenyl (S)	98 9	%	47-145		2	09/30/08 13:30	10/10/08 03:01	2051-24-3	
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	0.27	%		0.10	1		10/06/08 07:56		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-JWS6-G, 9/15/08 Lab ID: 409155008 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<58.8 uç	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<58.8 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<58.8 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<58.8 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	53469-21-9	
PCB-1248 (Aroclor 1248)	665 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	12672-29-6	
PCB-1254 (Aroclor 1254)	415 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<58.8 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	11096-82-5	
PCB, Total	1080 ug	g/kg	155	58.8	3	09/30/08 13:30	10/10/08 03:27	1336-36-3	
Tetrachloro-m-xylene (S)	87 %	1	40-136		3	09/30/08 13:30	10/10/08 03:27	877-09-8	
Decachlorobiphenyl (S)	97 %	•	47-145		3	09/30/08 13:30	10/10/08 03:27	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.56 %	•		0.10	1		10/06/08 07:56		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR2-JWS7-G, 9/15/08 Lab ID: 409155009 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<57.0 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<57.0 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<57.0 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<57.0 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	53469-21-9	
PCB-1248 (Aroclor 1248)	751 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	12672-29-6	
PCB-1254 (Aroclor 1254)	586 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	11097-69-1	
PCB-1260 (Aroclor 1260)	59.4J u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	11096-82-5	
PCB, Total	1400 u	g/kg	150	57.0	3	09/30/08 13:30	10/10/08 04:44	1336-36-3	
Tetrachloro-m-xylene (S)	87 %	6	40-136		3	09/30/08 13:30	10/10/08 04:44	877-09-8	
Decachlorobiphenyl (S)	96 %	6	47-145		3	09/30/08 13:30	10/10/08 04:44	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.46 %	6		0.10	1		10/06/08 07:57		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC1-G, 9/16/08 Lab ID: 409155010 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ∪	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	53469-21-9	
PCB-1248 (Aroclor 1248)	1460 ւ	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	12672-29-6	
PCB-1254 (Aroclor 1254)	605 ι	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	11096-82-5	
PCB, Total	2060 t	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 05:10	1336-36-3	
Tetrachloro-m-xylene (S)	90 9	%	40-136		5	09/30/08 13:30	10/10/08 05:10	877-09-8	
Decachlorobiphenyl (S)	101 9	%	47-145		5	09/30/08 13:30	10/10/08 05:10	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	1.2	%		0.10	1		10/06/08 07:57		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC2-G, 9/16/08 Lab ID: 409155011 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	53469-21-9	
PCB-1248 (Aroclor 1248)	1220 ւ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	12672-29-6	
PCB-1254 (Aroclor 1254)	487 ι	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	11096-82-5	
PCB, Total	1710 ւ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 05:36	1336-36-3	
Tetrachloro-m-xylene (S)	88 %	%	40-136		4	09/30/08 13:30	10/10/08 05:36	877-09-8	
Decachlorobiphenyl (S)	98 %	%	47-145		4	09/30/08 13:30	10/10/08 05:36	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.77	%		0.10	1		10/06/08 07:57		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC3-G, 9/16/08 Lab ID: 409155012 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results U	Jnits LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical Met	hod: EPA 8082 Prepa	ration Meth	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	53469-21-9	
PCB-1248 (Aroclor 1248)	835 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	12672-29-6	
PCB-1254 (Aroclor 1254)	492 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	11096-82-5	
PCB, Total	1330 ug/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:02	1336-36-3	
Tetrachloro-m-xylene (S)	90 %	40-136		4	09/30/08 13:30	10/10/08 06:02	877-09-8	
Decachlorobiphenyl (S)	101 %	47-145		4	09/30/08 13:30	10/10/08 06:02	2051-24-3	
Lipid	Analytical Met	hod: Pace Lipid						
Lipid	0.39 %		0.10	1		10/06/08 07:57		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC4-G, 9/16/08 Lab ID: 409155013 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	53469-21-9	
PCB-1248 (Aroclor 1248)	1670 ւ	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	12672-29-6	
PCB-1254 (Aroclor 1254)	743 ເ	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	11097-69-1	
PCB-1260 (Aroclor 1260)	99.9J ι	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	11096-82-5	
PCB, Total	2510 ւ	ıg/kg	250	95.0	5	09/30/08 13:30	10/10/08 06:28	1336-36-3	
Tetrachloro-m-xylene (S)	90 %	%	40-136		5	09/30/08 13:30	10/10/08 06:28	877-09-8	
Decachlorobiphenyl (S)	101 %	%	47-145		5	09/30/08 13:30	10/10/08 06:28	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	3.2	%		0.10	1		10/06/08 07:57		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC5-G, 9/16/08 Lab ID: 409155014 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepa	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ∪	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	53469-21-9	
PCB-1248 (Aroclor 1248)	1050 ւ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	12672-29-6	
PCB-1254 (Aroclor 1254)	570 ι	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	11096-82-5	
PCB, Total	1620 ւ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 06:53	1336-36-3	
Tetrachloro-m-xylene (S)	89 %	%	40-136		4	09/30/08 13:30	10/10/08 06:53	877-09-8	
Decachlorobiphenyl (S)	99 %	%	47-145		4	09/30/08 13:30	10/10/08 06:53	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.84	%		0.10	1		10/06/08 07:58		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC6-G, 9/16/08 Lab ID: 409155015 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	53469-21-9	
PCB-1248 (Aroclor 1248)	850 ເ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	12672-29-6	
PCB-1254 (Aroclor 1254)	349 ι	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	11097-69-1	
PCB-1260 (Aroclor 1260)	77.4J ι	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	11096-82-5	
PCB, Total	1280 ւ	ıg/kg	200	76.0	4	09/30/08 13:30	10/10/08 07:19	1336-36-3	
Tetrachloro-m-xylene (S)	84 %	%	40-136		4	09/30/08 13:30	10/10/08 07:19	877-09-8	
Decachlorobiphenyl (S)	97 %	%	47-145		4	09/30/08 13:30	10/10/08 07:19	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.2 %	%		0.10	1		10/06/08 07:58		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC7-G, 9/16/08 Lab ID: 409155016 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 ι	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	53469-21-9	
PCB-1248 (Aroclor 1248)	1470 ւ	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	12672-29-6	
PCB-1254 (Aroclor 1254)	736 ι	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	11096-82-5	
PCB, Total	2210 ւ	ıg/kg	500	190	10	09/30/08 13:30	10/10/08 07:45	1336-36-3	
Tetrachloro-m-xylene (S)	89 9	%	40-136		10	09/30/08 13:30	10/10/08 07:45	877-09-8	
Decachlorobiphenyl (S)	102 %	%	47-145		10	09/30/08 13:30	10/10/08 07:45	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	1.1 %	%		0.10	1		10/06/08 07:58		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-AC8-G, 9/16/08 Lab ID: 409155017 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	53469-21-9	
PCB-1248 (Aroclor 1248)	14000 t	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	12672-29-6	
PCB-1254 (Aroclor 1254)	8860 t	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	11096-82-5	
PCB, Total	22800 t	ıg/kg	5000	1900	100	09/30/08 13:30	10/10/08 08:10	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/30/08 13:30	10/10/08 08:10	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/30/08 13:30	10/10/08 08:10	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	3.2	%		0.10	1		10/06/08 07:58		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-SB1-G, 9/16/08 Lab ID: 409155018 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	53469-21-9	
PCB-1248 (Aroclor 1248)	7150 ւ	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	12672-29-6	
PCB-1254 (Aroclor 1254)	6920 ւ	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ∪	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	11096-82-5	
PCB, Total	14100 և	ıg/kg	2500	950	50	09/30/08 13:30	10/10/08 08:36	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		50	09/30/08 13:30	10/10/08 08:36	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		50	09/30/08 13:30	10/10/08 08:36	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.4 %	%		0.10	1		10/06/08 07:59		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-SB2-G, 9/16/08 Lab ID: 409155019 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 t	ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	53469-21-9	
PCB-1248 (Aroclor 1248)	3610 (ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	12672-29-6	
PCB-1254 (Aroclor 1254)	2430 t	ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	11096-82-5	
PCB, Total	6040 (ıg/kg	1000	380	20	09/30/08 13:30	10/10/08 09:02	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/30/08 13:30	10/10/08 09:02	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/30/08 13:30	10/10/08 09:02	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	2.3	%		0.10	1		10/06/08 07:59		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Sample: BL-MR1-SB3-G, 9/16/08 Collected: 09/16/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue Lab ID: 409155020

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<380	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<380	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<380	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	53469-21-9	
PCB-1248 (Aroclor 1248)	2940	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	12672-29-6	
PCB-1254 (Aroclor 1254)	2830	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<380	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	11096-82-5	
PCB, Total	5770	ug/kg	1000	380	20	09/30/08 13:30	10/10/08 09:28	1336-36-3	
Tetrachloro-m-xylene (S)	0 '	%	40-136		20	09/30/08 13:30	10/10/08 09:28	877-09-8	S4
Decachlorobiphenyl (S)	0 '	%	47-145		20	09/30/08 13:30	10/10/08 09:28	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	1.1	%		0.10	1		10/06/08 07:59		

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 409155

QC Batch: OEXT/2810 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

409155001, 409155002, 409155003, 409155004, 409155005, 409155006, 409155007, 409155008, 409155009, Associated Lab Samples:

409155010, 409155011, 409155012, 409155013, 409155014, 409155015, 409155016, 409155017, 409155018,

409155019, 409155020

METHOD BLANK: 82616 Matrix: Tissue

Associated Lab Samples: 409155001, 409155002, 409155003, 409155004, 409155005, 409155006, 409155007, 409155008, 409155009,

409155010, 409155011, 409155012, 409155013, 409155014, 409155015, 409155016, 409155017, 409155018,

409155019, 409155020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/09/08 22:43	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/09/08 22:43	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/09/08 22:43	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/09/08 22:43	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/09/08 22:43	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/09/08 22:43	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/09/08 22:43	
Decachlorobiphenyl (S)	%	91	47-145	10/09/08 22:43	
Tetrachloro-m-xylene (S)	%	89	40-136	10/09/08 22:43	

LABORATORY CONTROL SAMPLE:	82617					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg	250	236	95	40-128	
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg		<19.0			
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			88	47-145	
Tetrachloro-m-xylene (S)	%			84	40-136	

Parameter	Units	409155004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qua
PCB-1016 (Aroclor 1016)	ug/kg				<190	<190					56	
PCB-1221 (Aroclor 1221)	ug/kg	<76.0			<190	<190					56	
PCB-1232 (Aroclor 1232)	ug/kg	<76.0			<190	<190					56	
PCB-1242 (Aroclor 1242)	ug/kg	<76.0	1000	1000	<190	<190	0	0	43-130		56	M0
PCB-1248 (Aroclor 1248)	ug/kg	768			2010	2010				.2	56	
PCB-1254 (Aroclor 1254)	ug/kg	506			750	724				4	56	
PCB-1260 (Aroclor 1260)	ug/kg	<76.0			<190	<190					56	
Decachlorobiphenyl (S)	%						98	102	47-145			
Tetrachloro-m-xylene (S)	%						88	91	40-136			

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 409155

QC Batch: OEXT/2846 Analysis Method: Pace Lipid QC Batch Method: Pace Lipid Analysis Description:

409155001, 409155002, 409155003, 409155004, 409155005, 409155006, 409155007, 409155008, 409155009, Associated Lab Samples:

409155010, 409155011, 409155012, 409155013, 409155014, 409155015, 409155016, 409155017, 409155018,

409155019, 409155020

METHOD BLANK: 84324 Matrix: Tissue

Associated Lab Samples: 409155001, 409155002, 409155003, 409155004, 409155005, 409155006, 409155007, 409155008, 409155009,

409155010, 409155011, 409155012, 409155013, 409155014, 409155015, 409155016, 409155017, 409155018,

409155019, 409155020

Blank Reporting Parameter Units Result Limit Analyzed Qualifiers % 10/06/08 07:53 < 0.10

SAMPLE DUPLICATE: 84325

Date: 10/17/2008 03:48 PM

Lipid

			409155004	Dup		Max	
Paran	neter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid		%	0.73	0.90	20	20	

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/17/2008 03:48 PM

M0 Matrix spike recovery was outside laboratory control limits.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409155

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
409155001	BL-MR2-RB6-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155002	BL-MR2-RB7-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155003	BL-MR2-RB8-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155004	BL-MR2-AC1-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155005	BL-MR2-JWS3-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155006	BL-MR2-JWS4-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155007	BL-MR2-JWS5-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155008	BL-MR2-JWS6-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155009	BL-MR2-JWS7-G, 9/15/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155010	BL-MR1-AC1-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155011	BL-MR1-AC2-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155012	BL-MR1-AC3-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155013	BL-MR1-AC4-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155014	BL-MR1-AC5-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155015	BL-MR1-AC6-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155016	BL-MR1-AC7-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155017	BL-MR1-AC8-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155018	BL-MR1-SB1-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155019	BL-MR1-SB2-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155020	BL-MR1-SB3-G, 9/16/08	EPA 3540	OEXT/2810	EPA 8082	GCSV/1969
409155001	BL-MR2-RB6-G, 9/15/08	Pace Lipid	OEXT/2846		
409155002	BL-MR2-RB7-G, 9/15/08	Pace Lipid	OEXT/2846		
409155003	BL-MR2-RB8-G, 9/15/08	Pace Lipid	OEXT/2846		
409155004	BL-MR2-AC1-G, 9/15/08	Pace Lipid	OEXT/2846		
409155005	BL-MR2-JWS3-G, 9/15/08	Pace Lipid	OEXT/2846		
409155006	BL-MR2-JWS4-G, 9/15/08	Pace Lipid	OEXT/2846		
409155007	BL-MR2-JWS5-G, 9/15/08	Pace Lipid	OEXT/2846		
409155008	BL-MR2-JWS6-G, 9/15/08	Pace Lipid	OEXT/2846		
409155009	BL-MR2-JWS7-G, 9/15/08	Pace Lipid	OEXT/2846		
409155010	BL-MR1-AC1-G, 9/16/08	Pace Lipid	OEXT/2846		
409155011	BL-MR1-AC2-G, 9/16/08	Pace Lipid	OEXT/2846		
409155012	BL-MR1-AC3-G, 9/16/08	Pace Lipid	OEXT/2846		
409155013	BL-MR1-AC4-G, 9/16/08	Pace Lipid	OEXT/2846		
409155014	BL-MR1-AC5-G, 9/16/08	Pace Lipid	OEXT/2846		
409155015	BL-MR1-AC6-G, 9/16/08	Pace Lipid	OEXT/2846		
409155016	BL-MR1-AC7-G, 9/16/08	Pace Lipid	OEXT/2846		
409155017	BL-MR1-AC8-G, 9/16/08	Pace Lipid	OEXT/2846		
409155018	BL-MR1-SB1-G, 9/16/08	Pace Lipid	OEXT/2846		
409155019	BL-MR1-SB2-G, 9/16/08	Pace Lipid	OEXT/2846		
409155020	BL-MR1-SB3-G, 9/16/08	Pace Lipid	OEXT/2846		

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October 22, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 11, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334 North Carolina Certification #: 503 North Carolina Certification #: 503 North Dakota Certification #: R-200 North Dakota Certification #: R-150 New York Certification #: 11888 New York Certification #: 11887 Illinois Certification #: 200051 Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

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SAMPLE SUMMARY

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408870001	BL-MR2-SB6-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870002	BL-MR2-SB7-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870003	BL-MR2-SB8-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870004	BL-MR2-AWS1-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870005	BL-MR2-AWS2-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870006	BL-MR2-AWS3-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870007	BL-MR2-AWS4-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870008	BL-MR2-AWS5-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870009	BL-MR2-AWS6-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870010	BL-MR2-AWS7-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870011	BL-MR2-AWS8-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870012	BL-MR2-JWS1-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870013	BL-MR2-JWS2-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870014	BL-MR2-RB1-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870015	BL-MR2-RB2-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870016	BL-MR2-CC1-G, 9/8/08	Tissue	09/08/08 00:00	09/11/08 12:35
408870017	BL-MR2-LD1-G, 9/10/08	Tissue	09/10/08 00:00	09/11/08 12:35
408870018	BL-MR2-LD2-G, 9/10/08	Tissue	09/10/08 00:00	09/11/08 12:35
408870019	BL-MR2-LD3-G, 9/10/08	Tissue	09/10/08 00:00	09/11/08 12:35
408870020	BL-MR2-LD4-G, 9/10/08	Tissue	09/10/08 00:00	09/11/08 12:35





SAMPLE ANALYTE COUNT

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Mark Bit Mark See - G. 9/8/08 EPA 8082 CAH 10	Lab ID	Sample ID	Method	Analysts	Analytes Reported
408870002 BL-MR2-SB7-G, 9/8/08 EPA 8082 BDS 10 408870003 BL-MR2-SB8-G, 9/8/08 EPA 8082 CAH 10 408870004 BL-MR2-AWS1-G, 9/8/08 EPA 8082 CAH 10 408870005 BL-MR2-AWS2-G, 9/8/08 EPA 8082 CAH 10 408870006 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870006 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870007 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870008 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870009 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870009 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870013 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-JWS3-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870018 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870019 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-RB3-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD3-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD3-G, 9/10/08 EPA 8082 CAH 10 408870019 BL-MR2-LD3-G, 9/10/08 EPA 8082 CAH 10 408870010 EPA 808	408870001	BL-MR2-SB6-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid N.JB 1 1 1 1 1 1 1 1 1			Pace Lipid	DAL	1
408870003 BL-MR2-SB8-G, 9/8/08 EPA 8082 CAH 10 408870004 BL-MR2-AWS1-G, 9/8/08 EPA 8082 CAH 10 408870005 BL-MR2-AWS2-G, 9/8/08 EPA 8082 CAH 10 408870006 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870006 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870007 BL-MR2-AWS4-G, 9/8/08 EPA 8082 CAH 10 408870007 BL-MR2-AWS4-G, 9/8/08 EPA 8082 CAH 10 408870008 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870009 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870009 BL-MR2-AWS6-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS7-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870013 BL-MR2-JWS1-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-JWS1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-BL-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-BL-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-BL-G, 9/8/08 EPA 8082 CAH 10 408870018 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870019 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870019 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870019 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870019 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870010 BL-MR	408870002	BL-MR2-SB7-G, 9/8/08	EPA 8082	BDS	10
Pace Lipid DAL 1			Pace Lipid	NJB	1
408870004 BL-MR2-AWS1-G, 9/8/08 EPA 8082 CAH 10	408870003	BL-MR2-SB8-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid			Pace Lipid	DAL	1
March Mar	408870004	BL-MR2-AWS1-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
408870006 BL-MR2-AWS3-G, 9/8/08 EPA 8082 CAH 10 408870007 BL-MR2-AWS4-G, 9/8/08 EPA 8082 CAH 10 408870008 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870009 BL-MR2-AWS6-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS6-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS7-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-JWS1-G, 9/8/08 EPA 8082 CAH 10 408870013 BL-MR2-JWS1-G, 9/8/08 EPA 8082 BDS 10 408870014 BL-MR2-JWS2-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08<	408870005	BL-MR2-AWS2-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
408870007 BL-MR2-AWS4-G, 9/8/08 EPA 8082 CAH 10 408870008 BL-MR2-AWS5-G, 9/8/08 EPA 8082 CAH 10 408870009 BL-MR2-AWS6-G, 9/8/08 EPA 8082 CAH 10 408870010 BL-MR2-AWS7-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-JWS1-G, 9/8/08 EPA 8082 CAH 10 408870013 BL-MR2-JWS2-G, 9/8/08 EPA 8082 BDS 10 408870014 BL-MR2-JWS2-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08<	408870006	BL-MR2-AWS3-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
408870008 BL-MR2-AWS5-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870009 BL-MR2-AWS6-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870010 BL-MR2-AWS7-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870011 BL-MR2-AWS8-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870012 BL-MR2-JWS1-G, 9/8/08 EPA 8082 Pace Lipid DAL 1 408870013 BL-MR2-JWS2-G, 9/8/08 EPA 8082 Pace Lipid DAL 1 408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870015 BL-MR2-RB1-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870016 BL-MR2-RB2-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870016 BL-MR2-RB2-G, 9/8/08 EPA 8082 Pace Lipid CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 Pace Lipid CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 Pace Lipid CAH 10 408870018 BL-MR2-LD1-G, 9/10/08 EPA 80	408870007	BL-MR2-AWS4-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid			Pace Lipid	DAL	1
408870099 BL-MR2-AWS6-G, 9/8/08	408870008	BL-MR2-AWS5-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
408870010 BL-MR2-AWS7-G, 9/8/08 EPA 8082 CAH 10 408870011 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-JWS1-G, 9/8/08 EPA 8082 BDS 10 408870013 BL-MR2-JWS2-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR	408870009	BL-MR2-AWS6-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
408870011 BL-MR2-AWS8-G, 9/8/08 EPA 8082 CAH 10 408870012 BL-MR2-JWS1-G, 9/8/08 EPA 8082 BDS 10 408870013 BL-MR2-JWS2-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10	408870010	BL-MR2-AWS7-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
408870012 BL-MR2-JWS1-G, 9/8/08 EPA 8082 BDS 10 408870013 BL-MR2-JWS2-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10	408870011	BL-MR2-AWS8-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid NJB 1			Pace Lipid	DAL	1
408870013 BL-MR2-JWS2-G, 9/8/08 EPA 8082 CAH 10 408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10	408870012	BL-MR2-JWS1-G, 9/8/08	EPA 8082	BDS	10
Pace Lipid DAL 1			Pace Lipid	NJB	1
408870014 BL-MR2-RB1-G, 9/8/08 EPA 8082 CAH 10 408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 408870018 DAL 1	408870013	BL-MR2-JWS2-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1 408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 408870018 DAL 1 Pace Lipid DAL 1 Pace Lipid DAL 1 Pace Lipid DAL 1			Pace Lipid	DAL	1
408870015 BL-MR2-RB2-G, 9/8/08 EPA 8082 CAH 10 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 Pace Lipid DAL 1	408870014	BL-MR2-RB1-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1 408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 Pace Lipid DAL 1 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 Pace Lipid DAL 1			Pace Lipid	DAL	1
408870016 BL-MR2-CC1-G, 9/8/08 EPA 8082 CAH 10 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 Pace Lipid DAL 1	408870015	BL-MR2-RB2-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1 408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 10 Pace Lipid DAL 1			Pace Lipid	DAL	1
408870017 BL-MR2-LD1-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1	408870016	BL-MR2-CC1-G, 9/8/08	EPA 8082	CAH	10
Pace Lipid DAL 1 408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1			Pace Lipid	DAL	1
408870018 BL-MR2-LD2-G, 9/10/08 EPA 8082 CAH 10 Pace Lipid DAL 1	408870017	BL-MR2-LD1-G, 9/10/08	EPA 8082	CAH	10
Pace Lipid DAL 1			Pace Lipid	DAL	1
·	408870018	BL-MR2-LD2-G, 9/10/08	EPA 8082	CAH	10
408870019 BL-MR2-LD3-G, 9/10/08 EPA 8082 CAH 10			Pace Lipid	DAL	1
	408870019	BL-MR2-LD3-G, 9/10/08	EPA 8082	CAH	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	DAL	1
408870020	BL-MR2-LD4-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1





PROJECT NARRATIVE

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 22, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2796

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-MR2-AWS6-G, 9/8/08 (Lab ID: 408870009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR2-AWS7-G, 9/8/08 (Lab ID: 408870010)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR2-AWS8-G, 9/8/08 (Lab ID: 408870011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR2-CC1-G, 9/8/08 (Lab ID: 408870016)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR2-SB8-G, 9/8/08 (Lab ID: 408870003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 22, 2008

QC Batch: OEXT/2796

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 408870001

M0: Matrix spike recovery was outside laboratory control limits.

• MS (Lab ID: 82239)

• PCB-1242 (Aroclor 1242)

• MSD (Lab ID: 82240)

• PCB-1242 (Aroclor 1242)

QC Batch: GCSV/2002

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:







PROJECT NARRATIVE

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 22, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.







Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-SB6-G, 9/8/08 Lab ID: 408870001 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	53469-21-9	M0
PCB-1248 (Aroclor 1248)	1640 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	12672-29-6	
PCB-1254 (Aroclor 1254)	1440 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	11096-82-5	
PCB, Total	3080 u	g/kg	500	190	10	09/29/08 10:10	10/07/08 14:35	1336-36-3	
Tetrachloro-m-xylene (S)	82 %	, 0	40-136		10	09/29/08 10:10	10/07/08 14:35	877-09-8	
Decachlorobiphenyl (S)	93 %	, 0	47-145		10	09/29/08 10:10	10/07/08 14:35	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	1.1 %	ó		0.10	1		10/06/08 08:18		

Date: 10/22/2008 05:14 PM





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-SB7-G, 9/8/08 Lab ID: 408870002 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	53469-21-9	
PCB-1248 (Aroclor 1248)	2310 ւ	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	12672-29-6	
PCB-1254 (Aroclor 1254)	1970 ւ	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	11096-82-5	
PCB, Total	4280 ι	ıg/kg	500	190	10	10/07/08 14:28	10/09/08 23:46	1336-36-3	
Tetrachloro-m-xylene (S)	94 %	%	40-136		10	10/07/08 14:28	10/09/08 23:46	877-09-8	
Decachlorobiphenyl (S)	108 %	%	47-145		10	10/07/08 14:28	10/09/08 23:46	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	1.3 %	%		0.10	1		10/20/08 14:33		

Date: 10/22/2008 05:14 PM





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-SB8-G, 9/8/08 Lab ID: 408870003 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<380 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	53469-21-9	
PCB-1248 (Aroclor 1248)	2160 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	12672-29-6	
PCB-1254 (Aroclor 1254)	1890 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	11096-82-5	
PCB, Total	4050 u	g/kg	1000	380	20	09/29/08 10:10	10/07/08 15:01	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	, D	40-136		20	09/29/08 10:10	10/07/08 15:01	877-09-8	S4
Decachlorobiphenyl (S)	0 %	, D	47-145		20	09/29/08 10:10	10/07/08 15:01	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.3 %	ò		0.10	1		10/06/08 08:18		

Date: 10/22/2008 05:14 PM





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS1-G, 9/8/08 Lab ID: 408870004 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	53469-21-9	
PCB-1248 (Aroclor 1248)	1320 ւ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	12672-29-6	
PCB-1254 (Aroclor 1254)	1720 ւ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	11097-69-1	
PCB-1260 (Aroclor 1260)	204J ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	11096-82-5	
PCB, Total	3240 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:27	1336-36-3	
Tetrachloro-m-xylene (S)	72 %	%	40-136		10	09/29/08 10:10	10/07/08 15:27	877-09-8	
Decachlorobiphenyl (S)	84 %	%	47-145		10	09/29/08 10:10	10/07/08 15:27	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.20	%		0.10	1		10/06/08 08:19		

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REPORT OF LABORATORY ANALYSIS





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS2-G, 9/8/08 Lab ID: 408870005 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 ເ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	53469-21-9	
PCB-1248 (Aroclor 1248)	545 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	12672-29-6	
PCB-1254 (Aroclor 1254)	1520 և	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	11097-69-1	
PCB-1260 (Aroclor 1260)	300J և	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	11096-82-5	
PCB, Total	2370 u	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 15:53	1336-36-3	
Tetrachloro-m-xylene (S)	80 %	6	40-136		10	09/29/08 10:10	10/07/08 15:53	877-09-8	
Decachlorobiphenyl (S)	91 %	6	47-145		10	09/29/08 10:10	10/07/08 15:53	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.17 %	6		0.10	1		10/06/08 08:19		

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Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS3-G, 9/8/08 Lab ID: 408870006 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	53469-21-9	
PCB-1248 (Aroclor 1248)	2000 t	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	12672-29-6	
PCB-1254 (Aroclor 1254)	1510 ւ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	11096-82-5	
PCB, Total	3510 ເ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:19	1336-36-3	
Tetrachloro-m-xylene (S)	79 %	%	40-136		10	09/29/08 10:10	10/07/08 16:19	877-09-8	
Decachlorobiphenyl (S)	93 %	%	47-145		10	09/29/08 10:10	10/07/08 16:19	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.52	%		0.10	1		10/06/08 08:19		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS4-G, 9/8/08 Lab ID: 408870007 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 ւ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	53469-21-9	
PCB-1248 (Aroclor 1248)	1750 ւ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	12672-29-6	
PCB-1254 (Aroclor 1254)	1540 և	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	11097-69-1	
PCB-1260 (Aroclor 1260)	191J ւ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	11096-82-5	
PCB, Total	3480 υ	ıg/kg	500	190	10	09/29/08 10:10	10/07/08 16:44	1336-36-3	
Tetrachloro-m-xylene (S)	83 %	%	40-136		10	09/29/08 10:10	10/07/08 16:44	877-09-8	
Decachlorobiphenyl (S)	97 %	%	47-145		10	09/29/08 10:10	10/07/08 16:44	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.72 %	%		0.10	1		10/06/08 08:19		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS5-G, 9/8/08 Lab ID: 408870008 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<57.0 ∪	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<57.0 ∪	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<57.0 ∪	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<57.0 ∪	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	53469-21-9	
PCB-1248 (Aroclor 1248)	345 u	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	12672-29-6	
PCB-1254 (Aroclor 1254)	479 ւ	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	11097-69-1	
PCB-1260 (Aroclor 1260)	102J	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	11096-82-5	
PCB, Total	925 ι	ıg/kg	150	57.0	3	09/29/08 10:10	10/07/08 17:10	1336-36-3	
Tetrachloro-m-xylene (S)	82 %	6	40-136		3	09/29/08 10:10	10/07/08 17:10	877-09-8	
Decachlorobiphenyl (S)	89 %	6	47-145		3	09/29/08 10:10	10/07/08 17:10	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.15 %	6		0.10	1		10/06/08 08:20		

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Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS6-G, 9/8/08 Lab ID: 408870009 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 t	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	53469-21-9	
PCB-1248 (Aroclor 1248)	3650 (ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	12672-29-6	
PCB-1254 (Aroclor 1254)	2710 (ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	11096-82-5	
PCB, Total	6360 (ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 17:36	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/29/08 10:10	10/07/08 17:36	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/29/08 10:10	10/07/08 17:36	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.2	%		0.10	1		10/06/08 08:20		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS7-G, 9/8/08 Lab ID: 408870010 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	53469-21-9	
PCB-1248 (Aroclor 1248)	3590 t	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	12672-29-6	
PCB-1254 (Aroclor 1254)	3390	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	11096-82-5	
PCB, Total	6980 ւ	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 18:53	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/29/08 10:10	10/07/08 18:53	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/29/08 10:10	10/07/08 18:53	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.58	%		0.10	1		10/06/08 08:20		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-AWS8-G, 9/8/08 Lab ID: 408870011 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	53469-21-9	
PCB-1248 (Aroclor 1248)	2890 t	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	12672-29-6	
PCB-1254 (Aroclor 1254)	1940 ւ	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	11096-82-5	
PCB, Total	4830 ւ	ıg/kg	1000	380	20	09/29/08 10:10	10/07/08 19:19	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/29/08 10:10	10/07/08 19:19	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/29/08 10:10	10/07/08 19:19	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.4	%		0.10	1		10/06/08 08:20		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-JWS1-G, 9/8/08 Lab ID: 408870012 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<117 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<117 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<117 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<117 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	53469-21-9	
PCB-1248 (Aroclor 1248)	996 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	12672-29-6	
PCB-1254 (Aroclor 1254)	1030 u	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	11097-69-1	
PCB-1260 (Aroclor 1260)	<117 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	11096-82-5	
PCB, Total	2030 U	ıg/kg	308	117	2	10/07/08 14:28	10/10/08 00:14	1336-36-3	
Tetrachloro-m-xylene (S)	92 %	6	40-136		2	10/07/08 14:28	10/10/08 00:14	877-09-8	
Decachlorobiphenyl (S)	100 %	6	47-145		2	10/07/08 14:28	10/10/08 00:14	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.48 %	6		0.10	1		10/20/08 14:33		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-JWS2-G, 9/8/08 Lab ID: 408870013 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<50.7 ∪	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<50.7 ∪	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<50.7 ∪	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<50.7 ∪	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	53469-21-9	
PCB-1248 (Aroclor 1248)	657 և	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	12672-29-6	
PCB-1254 (Aroclor 1254)	542 υ	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	11097-69-1	
PCB-1260 (Aroclor 1260)	<50.7 ∪	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	11096-82-5	
PCB, Total	1200 և	ıg/kg	133	50.7	2	09/29/08 10:10	10/07/08 19:45	1336-36-3	
Tetrachloro-m-xylene (S)	91 %	%	40-136		2	09/29/08 10:10	10/07/08 19:45	877-09-8	
Decachlorobiphenyl (S)	97 %	%	47-145		2	09/29/08 10:10	10/07/08 19:45	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.40 %	%		0.10	1		10/06/08 08:21		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-RB1-G, 9/8/08 Lab ID: 408870014 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<101 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	12674-11-2	
PCB-1221 (Aroclor 1221)	<101 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	11104-28-2	
PCB-1232 (Aroclor 1232)	<101 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	11141-16-5	
PCB-1242 (Aroclor 1242)	<101 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	53469-21-9	
PCB-1248 (Aroclor 1248)	740 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	12672-29-6	
PCB-1254 (Aroclor 1254)	679 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	11097-69-1	
PCB-1260 (Aroclor 1260)	<101 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	11096-82-5	
PCB, Total	1420 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:11	1336-36-3	
Tetrachloro-m-xylene (S)	79 %	6	40-136		4	09/29/08 10:10	10/07/08 20:11	877-09-8	
Decachlorobiphenyl (S)	88 %	6	47-145		4	09/29/08 10:10	10/07/08 20:11	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.48 %	6		0.10	1		10/06/08 08:21		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-RB2-G, 9/8/08 Lab ID: 408870015 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<101 u	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	12674-11-2	
PCB-1221 (Aroclor 1221)	<101 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	11104-28-2	
PCB-1232 (Aroclor 1232)	<101 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	11141-16-5	
PCB-1242 (Aroclor 1242)	<101 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	53469-21-9	
PCB-1248 (Aroclor 1248)	1140 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	12672-29-6	
PCB-1254 (Aroclor 1254)	956 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	11097-69-1	
PCB-1260 (Aroclor 1260)	<101 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	11096-82-5	
PCB, Total	2090 U	ıg/kg	267	101	4	09/29/08 10:10	10/07/08 20:37	1336-36-3	
Tetrachloro-m-xylene (S)	84 %	6	40-136		4	09/29/08 10:10	10/07/08 20:37	877-09-8	
Decachlorobiphenyl (S)	92 %	6	47-145		4	09/29/08 10:10	10/07/08 20:37	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.59 %	6		0.10	1		10/06/08 08:21		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-CC1-G, 9/8/08 Lab ID: 408870016 Collected: 09/08/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	53469-21-9	
PCB-1248 (Aroclor 1248)	3920 ι	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	12672-29-6	
PCB-1254 (Aroclor 1254)	2990 t	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	11096-82-5	
PCB, Total	6900 ւ	ıg/kg	1500	570	30	09/29/08 10:10	10/07/08 21:02	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/29/08 10:10	10/07/08 21:02	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/29/08 10:10	10/07/08 21:02	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.2	%		0.10	1		10/06/08 08:21		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-LD1-G, 9/10/08 Lab ID: 408870017 Collected: 09/10/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<345 t	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<345 ≀	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<345 ≀	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<345 ≀	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	53469-21-9	
PCB-1248 (Aroclor 1248)	3410 ι	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	12672-29-6	
PCB-1254 (Aroclor 1254)	2790 ւ	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<345 ≀	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	11096-82-5	
PCB, Total	6200 ι	ıg/kg	909	345	4	09/29/08 10:10	10/07/08 21:28	1336-36-3	
Tetrachloro-m-xylene (S)	81 9	%	40-136		4	09/29/08 10:10	10/07/08 21:28	877-09-8	
Decachlorobiphenyl (S)	91 %	%	47-145		4	09/29/08 10:10	10/07/08 21:28	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	2.8	%		0.10	1		10/06/08 08:22		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-LD2-G, 9/10/08 Lab ID: 408870018 Collected: 09/10/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	53469-21-9	
PCB-1248 (Aroclor 1248)	5180 ւ	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	12672-29-6	
PCB-1254 (Aroclor 1254)	4420 ι	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	11096-82-5	
PCB, Total	9600 ເ	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 21:54	1336-36-3	
Tetrachloro-m-xylene (S)	82 %	%	40-136		10	09/29/08 10:10	10/07/08 21:54	877-09-8	
Decachlorobiphenyl (S)	97 %	%	47-145		10	09/29/08 10:10	10/07/08 21:54	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	5.0 %	%		0.10	1		10/06/08 08:22		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-LD3-G, 9/10/08 Lab ID: 408870019 Collected: 09/10/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<760 ∪	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ∪	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ∪	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ∪	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	53469-21-9	
PCB-1248 (Aroclor 1248)	6380 U	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	12672-29-6	
PCB-1254 (Aroclor 1254)	4490 U	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ∪	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	11096-82-5	
PCB, Total	10900 U	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:20	1336-36-3	
Tetrachloro-m-xylene (S)	84 %	%	40-136		10	09/29/08 10:10	10/07/08 22:20	877-09-8	
Decachlorobiphenyl (S)	97 %	%	47-145		10	09/29/08 10:10	10/07/08 22:20	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	6.1 %	%		0.10	1		10/06/08 08:22		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Sample: BL-MR2-LD4-G, 9/10/08 Lab ID: 408870020 Collected: 09/10/08 00:00 Received: 09/11/08 12:35 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	53469-21-9	
PCB-1248 (Aroclor 1248)	6650 ι	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	12672-29-6	
PCB-1254 (Aroclor 1254)	4370 ι	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	11096-82-5	
PCB, Total	11000 ւ	ıg/kg	2000	760	10	09/29/08 10:10	10/07/08 22:45	1336-36-3	
Tetrachloro-m-xylene (S)	82 %	%	40-136		10	09/29/08 10:10	10/07/08 22:45	877-09-8	
Decachlorobiphenyl (S)	94 %	%	47-145		10	09/29/08 10:10	10/07/08 22:45	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	5.5	%		0.10	1		10/06/08 08:22		





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

QC Batch: OEXT/2796 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408870001, 408870003, 408870004, 408870005, 408870006, 408870007, 408870008, 408870009, 408870010,

408870011, 408870013, 408870014, 408870015, 408870016, 408870017, 408870018, 408870019, 408870020

METHOD BLANK: 82237 Matrix: Tissue

Associated Lab Samples: 408870001, 408870003, 408870004, 408870005, 408870006, 408870007, 408870008, 408870009, 408870010,

 $408870011,\,408870013,\,408870014,\,408870015,\,408870016,\,408870017,\,408870018,\,408870019,\,408870020$

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/07/08 12:52	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/07/08 12:52	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/07/08 12:52	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/07/08 12:52	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/07/08 12:52	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/07/08 12:52	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/07/08 12:52	
Decachlorobiphenyl (S)	%	91	47-145	10/07/08 12:52	
Tetrachloro-m-xylene (S)	%	85	40-136	10/07/08 12:52	

LABORATORY CONTROL SAMPLE:	82238					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg	250	232	93	40-128	
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg		<19.0			
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			88	47-145	
Tetrachloro-m-xylene (S)	%			84	40-136	

Parameter	Units	408870001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qua
PCB-1016 (Aroclor 1016)	ug/kg	<190			<190	<190					56	
PCB-1221 (Aroclor 1221)	ug/kg	<190			<190	<190					56	
PCB-1232 (Aroclor 1232)	ug/kg	<190			<190	<190					56	
PCB-1242 (Aroclor 1242)	ug/kg	<190	1000	1000	<190	<190	0	0	43-130		56	M0
PCB-1248 (Aroclor 1248)	ug/kg	1640			2420	2550				5	56	
PCB-1254 (Aroclor 1254)	ug/kg	1440			1390	1500				8	56	
PCB-1260 (Aroclor 1260)	ug/kg	<190			<190	<190					56	
Decachlorobiphenyl (S)	%						91	91	47-145			
Tetrachloro-m-xylene (S)	%						83	83	40-136			

Date: 10/22/2008 05:14 PM REPORT OF LABORATORY ANALYSIS

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Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

QC Batch: OEXT/2809 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 408870001, 408870003, 408870004, 408870005, 408870006, 408870007, 408870008, 408870009, 408870010,

408870011, 408870013, 408870014, 408870015, 408870016, 408870017, 408870018, 408870019, 408870020

METHOD BLANK: 82614 Matrix: Tissue

Associated Lab Samples: 408870001, 408870003, 408870004, 408870005, 408870006, 408870007, 408870008, 408870009, 408870010,

408870011, 408870013, 408870014, 408870015, 408870016, 408870017, 408870018, 408870019, 408870020

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Lipid % <0.10 10/06/08 08:17

SAMPLE DUPLICATE: 82615

Parameter	Units	408870001 Result	Dup Result	RPD	Max RPD	Qualifiers
Lipid		1.1	1.0	4	20	





Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

QC Batch: OEXT/2884 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408870002, 408870012

METHOD BLANK: 86008 Matrix: Tissue

Associated Lab Samples: 408870002, 408870012

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/09/08 21:26	_
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/09/08 21:26	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/09/08 21:26	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/09/08 21:26	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/09/08 21:26	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/09/08 21:26	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/09/08 21:26	
Decachlorobiphenyl (S)	%	89	47-145	10/09/08 21:26	
Tetrachloro-m-xylene (S)	%	100	40-136	10/09/08 21:26	

LABORATORY CONTROL SAME	PLE & LCSD: 86009		86	010						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0	<19.0					40	
PCB-1221 (Aroclor 1221)	ug/kg		<19.0	<19.0					40	
PCB-1232 (Aroclor 1232)	ug/kg		<19.0	<19.0					40	
PCB-1242 (Aroclor 1242)	ug/kg		<19.0	<19.0					40	
PCB-1248 (Aroclor 1248)	ug/kg		<19.0	<19.0					40	
PCB-1254 (Aroclor 1254)	ug/kg	250	215	226	86	91	40-128	5	40	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0	<19.0					40	
Decachlorobiphenyl (S)	%				94	96	47-145			
Tetrachloro-m-xylene (S)	%				101	99	40-136			







Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

QC Batch: OEXT/2895 Analysis Method: Pace Lipid QC Batch Method: Pace Lipid Analysis Description: **LIPID**

Associated Lab Samples: 408870002, 408870012

METHOD BLANK: 86574 Matrix: Tissue

Associated Lab Samples: 408870002, 408870012

> Blank Reporting Parameter Result Limit

Qualifiers Units Analyzed Lipid % <0.10 10/20/08 14:33

Date: 10/22/2008 05:14 PM

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QUALIFIERS

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: GCSV/2002

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

Date: 10/22/2008 05:14 PM

M0 Matrix spike recovery was outside laboratory control limits.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SHEBOYGAN RIVER CB08-002

Pace Project No.: 408870

Lab ID S	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408870001 E	BL-MR2-SB6-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870003 E	BL-MR2-SB8-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870004 E	BL-MR2-AWS1-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870005 E	BL-MR2-AWS2-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870006 E	BL-MR2-AWS3-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870007 E	BL-MR2-AWS4-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870008 E	BL-MR2-AWS5-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870009 E	BL-MR2-AWS6-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870010 E	BL-MR2-AWS7-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870011 E	BL-MR2-AWS8-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870013 E	BL-MR2-JWS2-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870014 E	BL-MR2-RB1-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870015 E	BL-MR2-RB2-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870016 E	BL-MR2-CC1-G, 9/8/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870017 E	BL-MR2-LD1-G, 9/10/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870018 E	BL-MR2-LD2-G, 9/10/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870019 E	BL-MR2-LD3-G, 9/10/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870020 E	BL-MR2-LD4-G, 9/10/08	EPA 3540	OEXT/2796	EPA 8082	GCSV/1961
408870001 E	BL-MR2-SB6-G, 9/8/08	Pace Lipid	OEXT/2809		
408870003 E	BL-MR2-SB8-G, 9/8/08	Pace Lipid	OEXT/2809		
408870004 E	BL-MR2-AWS1-G, 9/8/08	Pace Lipid	OEXT/2809		
408870005 E	BL-MR2-AWS2-G, 9/8/08	Pace Lipid	OEXT/2809		
408870006 E	BL-MR2-AWS3-G, 9/8/08	Pace Lipid	OEXT/2809		
408870007 E	BL-MR2-AWS4-G, 9/8/08	Pace Lipid	OEXT/2809		
408870008 E	BL-MR2-AWS5-G, 9/8/08	Pace Lipid	OEXT/2809		
408870009 E	BL-MR2-AWS6-G, 9/8/08	Pace Lipid	OEXT/2809		
408870010 E	BL-MR2-AWS7-G, 9/8/08	Pace Lipid	OEXT/2809		
408870011 E	BL-MR2-AWS8-G, 9/8/08	Pace Lipid	OEXT/2809		
408870013 E	BL-MR2-JWS2-G, 9/8/08	Pace Lipid	OEXT/2809		
408870014 E	BL-MR2-RB1-G, 9/8/08	Pace Lipid	OEXT/2809		
408870015 E	BL-MR2-RB2-G, 9/8/08	Pace Lipid	OEXT/2809		
408870016 E	BL-MR2-CC1-G, 9/8/08	Pace Lipid	OEXT/2809		
408870017 E	BL-MR2-LD1-G, 9/10/08	Pace Lipid	OEXT/2809		
408870018 E	BL-MR2-LD2-G, 9/10/08	Pace Lipid	OEXT/2809		
408870019 E	BL-MR2-LD3-G, 9/10/08	Pace Lipid	OEXT/2809		
408870020 E	BL-MR2-LD4-G, 9/10/08	Pace Lipid	OEXT/2809		
408870002 E	BL-MR2-SB7-G, 9/8/08	EPA 3540	OEXT/2884	EPA 8082	GCSV/2002
408870012 E	BL-MR2-JWS1-G, 9/8/08	EPA 3540	OEXT/2884	EPA 8082	GCSV/2002
408870002 E	BL-MR2-SB7-G, 9/8/08	Pace Lipid	OEXT/2895		
	BL-MR2-JWS1-G, 9/8/08	Pace Lipid	OEXT/2895		

Date: 10/22/2008 05:14 PM

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October 15, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408719001	BL-IH-W2-G, 9/5/08	Tissue	09/05/08 00:00	09/09/08 13:30
408719002	BL-IH-W3-G, 9/5/08	Tissue	09/05/08 00:00	09/09/08 13:30
408719003	BL-UR1-AC5-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719004	BL-UR1-AC6-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719005	BL-UR1-AC7-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719006	BL-UR1-AC8-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719007	BL-UR1-AC9-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719008	BL-UR1-AC10-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719009	BL-UR1-AC11-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719010	BL-UR1-AC12-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719011	BL-UR1-AC13-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719012	BL-UR1-AC14-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719013	BL-UR1-AC15-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719014	BL-UR1-AC16-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719015	BL-UR1-AWS5-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719016	BL-UR1-AWS6-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719017	BL-UR1-AWS7-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719018	BL-UR1-AWS8-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719019	BL-UR2-AC5-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408719020	BL-UR2-AC6-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30





SAMPLE ANALYTE COUNT

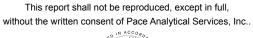
Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408719001	BL-IH-W2-G, 9/5/08	EPA 8082		10
	,	Pace Lipid	KPH	1
408719002	BL-IH-W3-G, 9/5/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719003	BL-UR1-AC5-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719004	BL-UR1-AC6-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719005	BL-UR1-AC7-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719006	BL-UR1-AC8-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719007	BL-UR1-AC9-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719008	BL-UR1-AC10-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719009	BL-UR1-AC11-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719010	BL-UR1-AC12-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719011	BL-UR1-AC13-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719012	BL-UR1-AC14-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719013	BL-UR1-AC15-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719014	BL-UR1-AC16-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719015	BL-UR1-AWS5-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719016	BL-UR1-AWS6-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719017	BL-UR1-AWS7-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719018	BL-UR1-AWS8-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408719019	BL-UR2-AC5-G, 9/6/08	EPA 8082	BDS	10

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	KPH	1
408719020	BL-UR2-AC6-G, 9/6/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2766

- S4: Surrogate recovery not evaluated against control limits due to sample dilution.
 - BL-UR1-AC10-G, 9/6/08 (Lab ID: 408719008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC11-G, 9/6/08 (Lab ID: 408719009)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC12-G, 9/6/08 (Lab ID: 408719010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC13-G, 9/6/08 (Lab ID: 408719011)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC14-G, 9/6/08 (Lab ID: 408719012)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC15-G, 9/6/08 (Lab ID: 408719013)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC16-G, 9/6/08 (Lab ID: 408719014)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC5-G, 9/6/08 (Lab ID: 408719003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC6-G, 9/6/08 (Lab ID: 408719004)

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PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 15, 2008

QC Batch: OEXT/2766

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- · Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-UR1-AC7-G, 9/6/08 (Lab ID: 408719005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-AC9-G, 9/6/08 (Lab ID: 408719007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-AWS5-G, 9/6/08 (Lab ID: 408719015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-AWS6-G, 9/6/08 (Lab ID: 408719016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-AWS7-G, 9/6/08 (Lab ID: 408719017)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-AWS8-G, 9/6/08 (Lab ID: 408719018)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-AC6-G, 9/6/08 (Lab ID: 408719020)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:











PROJECT NARRATIVE

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 408719

Method: Pace Lipid **Description:** Lipid

Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-IH-W2-G, 9/5/08 Lab ID: 408719001 Collected: 09/05/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ∪	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ∪	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ∪	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ∪	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	53469-21-9	
PCB-1248 (Aroclor 1248)	843 U	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	12672-29-6	
PCB-1254 (Aroclor 1254)	432 U	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	11097-69-1	
PCB-1260 (Aroclor 1260)	88.0J U	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	11096-82-5	
PCB, Total	1360 U	ıg/kg	200	76.0	4	09/24/08 14:01	10/02/08 06:52	1336-36-3	
Tetrachloro-m-xylene (S)	95 %	6	40-136		4	09/24/08 14:01	10/02/08 06:52	877-09-8	
Decachlorobiphenyl (S)	104 %	6	47-145		4	09/24/08 14:01	10/02/08 06:52	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	2.7 %	6		0.10	1		09/26/08 09:25		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-IH-W3-G, 9/5/08 Lab ID: 408719002 Collected: 09/05/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	53469-21-9	
PCB-1248 (Aroclor 1248)	1170 ເ	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	12672-29-6	
PCB-1254 (Aroclor 1254)	566 ເ	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	11096-82-5	
PCB, Total	1740 ւ	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 07:20	1336-36-3	
Tetrachloro-m-xylene (S)	98 9	%	40-136		5	09/24/08 14:01	10/02/08 07:20	877-09-8	
Decachlorobiphenyl (S)	106 9	%	47-145		5	09/24/08 14:01	10/02/08 07:20	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	1.7	%		0.10	1		09/26/08 09:26		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC5-G, 9/6/08 Lab ID: 408719003 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical Method: EPA 8082 Preparation Method: EPA 3540								
PCB-1016 (Aroclor 1016)	<380 (ug/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 t	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 t	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	53469-21-9	
PCB-1248 (Aroclor 1248)	3430 t	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	12672-29-6	
PCB-1254 (Aroclor 1254)	1340 ւ	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	11096-82-5	
PCB, Total	4770 ւ	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 07:49	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 14:01	10/02/08 07:49	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 14:01	10/02/08 07:49	2051-24-3	S4
Lipid	Analytical Method: Pace Lipid								
Lipid	2.2	%		0.10	1		09/26/08 09:26		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC6-G, 9/6/08 Lab ID: 408719004 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	53469-21-9	
PCB-1248 (Aroclor 1248)	8450 t	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	12672-29-6	
PCB-1254 (Aroclor 1254)	5540 ι	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	11096-82-5	
PCB, Total	14000 ւ	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:17	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/24/08 14:01	10/02/08 08:17	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/24/08 14:01	10/02/08 08:17	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.62	%		0.10	1		09/26/08 09:26		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC7-G, 9/6/08 Lab ID: 408719005 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	53469-21-9	
PCB-1248 (Aroclor 1248)	11600 ւ	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	12672-29-6	
PCB-1254 (Aroclor 1254)	5980 ւ	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	11096-82-5	
PCB, Total	17600 ւ	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 08:45	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/24/08 14:01	10/02/08 08:45	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/24/08 14:01	10/02/08 08:45	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	2.5	%		0.10	1		09/26/08 09:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC8-G, 9/6/08 Lab ID: 408719006 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	53469-21-9	
PCB-1248 (Aroclor 1248)	1430 (ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	12672-29-6	
PCB-1254 (Aroclor 1254)	652 ι	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	11096-82-5	
PCB, Total	2080 (ıg/kg	250	95.0	5	09/24/08 14:01	10/02/08 09:13	1336-36-3	
Tetrachloro-m-xylene (S)	92 9	%	40-136		5	09/24/08 14:01	10/02/08 09:13	877-09-8	
Decachlorobiphenyl (S)	98 9	%	47-145		5	09/24/08 14:01	10/02/08 09:13	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.34	%		0.10	1		09/26/08 09:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC9-G, 9/6/08 Lab ID: 408719007 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	53469-21-9	
PCB-1248 (Aroclor 1248)	30000 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	12672-29-6	
PCB-1254 (Aroclor 1254)	22000 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	11097-69-1	
PCB-1260 (Aroclor 1260)	1950J ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	11096-82-5	
PCB, Total	53900 (ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 17:10	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/24/08 14:01	10/02/08 17:10	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/24/08 14:01	10/02/08 17:10	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	7.5	%		0.10	1		09/26/08 09:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC10-G, 9/6/08 Lab ID: 408719008 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	53469-21-9	
PCB-1248 (Aroclor 1248)	14900 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	12672-29-6	
PCB-1254 (Aroclor 1254)	13500 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	11096-82-5	
PCB, Total	28400 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 10:09	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/24/08 14:01	10/02/08 10:09	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/24/08 14:01	10/02/08 10:09	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	7.5	%		0.10	1		09/26/08 09:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC11-G, 9/6/08 Lab ID: 408719009 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	53469-21-9	
PCB-1248 (Aroclor 1248)	6980 ւ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	12672-29-6	
PCB-1254 (Aroclor 1254)	2500 ι	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	11096-82-5	
PCB, Total	9480 ເ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 11:33	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/24/08 14:01	10/02/08 11:33	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/24/08 14:01	10/02/08 11:33	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	3.4	%		0.10	1		09/26/08 09:28		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC12-G, 9/6/08 Lab ID: 408719010 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 (ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	53469-21-9	
PCB-1248 (Aroclor 1248)	17100 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	12672-29-6	
PCB-1254 (Aroclor 1254)	12300 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 เ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	11096-82-5	
PCB, Total	29400 (ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:01	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/24/08 14:01	10/02/08 12:01	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/24/08 14:01	10/02/08 12:01	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	3.0	%		0.10	1		09/26/08 09:28		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC13-G, 9/6/08 Lab ID: 408719011 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	N 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	53469-21-9	
PCB-1248 (Aroclor 1248)	21600 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	12672-29-6	
PCB-1254 (Aroclor 1254)	11700 (ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	11096-82-5	
PCB, Total	33300 (ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 12:29	1336-36-3	
Tetrachloro-m-xylene (S)	0 (%	40-136		100	09/24/08 14:01	10/02/08 12:29	877-09-8	S4
Decachlorobiphenyl (S)	0 (%	47-145		100	09/24/08 14:01	10/02/08 12:29	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	13.7	%		0.10	1		09/26/08 09:31		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC14-G, 9/6/08 Lab ID: 408719012 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ∪	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ∪	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ∪	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	53469-21-9	
PCB-1248 (Aroclor 1248)	4370 υ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	12672-29-6	
PCB-1254 (Aroclor 1254)	4580 ւ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	11097-69-1	
PCB-1260 (Aroclor 1260)	604J և	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	11096-82-5	
PCB, Total	9550 ເ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 12:57	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/24/08 14:01	10/02/08 12:57	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/24/08 14:01	10/02/08 12:57	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.0 %	%		0.10	1		09/26/08 09:28		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC15-G, 9/6/08 Lab ID: 408719013 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<3800 (ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<3800 t	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<3800 t	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<3800 t	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	53469-21-9	
PCB-1248 (Aroclor 1248)	37600 t	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	12672-29-6	
PCB-1254 (Aroclor 1254)	17800 ເ	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	11097-69-1	
PCB-1260 (Aroclor 1260)	<3800 t	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	11096-82-5	
PCB, Total	55500 ι	ug/kg	10000	3800	200	09/24/08 14:01	10/02/08 13:26	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		200	09/24/08 14:01	10/02/08 13:26	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		200	09/24/08 14:01	10/02/08 13:26	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	8.7	%		0.10	1		09/26/08 09:29		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AC16-G, 9/6/08 Lab ID: 408719014 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	53469-21-9	
PCB-1248 (Aroclor 1248)	19800 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	12672-29-6	
PCB-1254 (Aroclor 1254)	17100 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	11096-82-5	
PCB, Total	36900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 13:54	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/24/08 14:01	10/02/08 13:54	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/24/08 14:01	10/02/08 13:54	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	7.0	%		0.10	1		09/26/08 09:29		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AWS5-G, 9/6/08 Lab ID: 408719015 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	53469-21-9	
PCB-1248 (Aroclor 1248)	5910 ւ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	12672-29-6	
PCB-1254 (Aroclor 1254)	4710 ւ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	11096-82-5	
PCB, Total	10600 ເ	ıg/kg	1500	570	30	09/24/08 14:01	10/02/08 14:22	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/24/08 14:01	10/02/08 14:22	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/24/08 14:01	10/02/08 14:22	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.86	%		0.10	1		09/26/08 09:29		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AWS6-G, 9/6/08 Lab ID: 408719016 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	53469-21-9	
PCB-1248 (Aroclor 1248)	3170 ເ	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	12672-29-6	
PCB-1254 (Aroclor 1254)	2580 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	11096-82-5	
PCB, Total	5740 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 14:50	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 14:01	10/02/08 14:50	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 14:01	10/02/08 14:50	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.50	%		0.10	1		09/26/08 09:29		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AWS7-G, 9/6/08 Lab ID: 408719017 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	53469-21-9	
PCB-1248 (Aroclor 1248)	3430 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	12672-29-6	
PCB-1254 (Aroclor 1254)	3920 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	11096-82-5	
PCB, Total	7340 (ıg/kg	1000	380	20	09/24/08 14:01	10/02/08 15:18	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 14:01	10/02/08 15:18	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 14:01	10/02/08 15:18	2051-24-3	S4
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	0.33	%		0.10	1		09/26/08 09:29		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR1-AWS8-G, 9/6/08 Lab ID: 408719018 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	53469-21-9	
PCB-1248 (Aroclor 1248)	6990 ւ	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	12672-29-6	
PCB-1254 (Aroclor 1254)	5260 ι	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	11096-82-5	
PCB, Total	12300 ւ	ıg/kg	2500	950	50	09/24/08 14:01	10/02/08 15:46	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		50	09/24/08 14:01	10/02/08 15:46	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		50	09/24/08 14:01	10/02/08 15:46	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.76	%		0.10	1		09/26/08 09:30		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR2-AC5-G, 9/6/08 Lab ID: 408719019 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results L	Jnits LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical Met	hod: EPA 8082 Prepa	ration Meth	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	53469-21-9	
PCB-1248 (Aroclor 1248)	2710 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	12672-29-6	
PCB-1254 (Aroclor 1254)	1020 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	11096-82-5	
PCB, Total	3730 ug/kg	500	190	10	09/24/08 14:01	10/02/08 16:14	1336-36-3	
Tetrachloro-m-xylene (S)	92 %	40-136		10	09/24/08 14:01	10/02/08 16:14	877-09-8	
Decachlorobiphenyl (S)	106 %	47-145		10	09/24/08 14:01	10/02/08 16:14	2051-24-3	
Lipid	Analytical Met	hod: Pace Lipid						
Lipid	1.3 %		0.10	1		09/26/08 09:30		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Sample: BL-UR2-AC6-G, 9/6/08 Lab ID: 408719020 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	53469-21-9	
PCB-1248 (Aroclor 1248)	16800 ເ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	12672-29-6	
PCB-1254 (Aroclor 1254)	13400 ւ	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	11096-82-5	
PCB, Total	30200 t	ıg/kg	5000	1900	100	09/24/08 14:01	10/02/08 16:42	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/24/08 14:01	10/02/08 16:42	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/24/08 14:01	10/02/08 16:42	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	3.2	%		0.10	1		09/26/08 09:30		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

QC Batch: OEXT/2766 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408719001, 408719002, 408719003, 408719004, 408719005, 408719006, 408719007, 408719008, 408719009,

408719010, 408719011, 408719012, 408719013, 408719014, 408719015, 408719016, 408719017, 408719018,

408719019, 408719020

METHOD BLANK: 80358 Matrix: Tissue

Associated Lab Samples: 408719001, 408719002, 408719003, 408719004, 408719005, 408719006, 408719007, 408719008, 408719009,

408719010, 408719011, 408719012, 408719013, 408719014, 408719015, 408719016, 408719017, 408719018,

408719019, 408719020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/02/08 05:00	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/02/08 05:00	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/02/08 05:00	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/02/08 05:00	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/02/08 05:00	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/02/08 05:00	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/02/08 05:00	
Decachlorobiphenyl (S)	%	103	47-145	10/02/08 05:00	
Tetrachloro-m-xylene (S)	%	94	40-136	10/02/08 05:00	

LABORATORY CONTROL SAMPLE:	80359					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	260	104	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			96	47-145	
Tetrachloro-m-xylene (S)	%			94	40-136	

		408719001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
PCB-1016 (Aroclor 1016)	ug/kg	<76.0			<190	<190					56	
PCB-1221 (Aroclor 1221)	ug/kg	<76.0			<190	<190					56	
PCB-1232 (Aroclor 1232)	ug/kg	<76.0			<190	<190					56	
PCB-1242 (Aroclor 1242)	ug/kg	<76.0			<190	<190					56	
PCB-1248 (Aroclor 1248)	ug/kg	843			868	808				7	56	
PCB-1254 (Aroclor 1254)	ug/kg	432	1000	1000	1300	1330	87	90	43-130	2	56	
PCB-1260 (Aroclor 1260)	ug/kg	88.0J			<190	<190					56	
Decachlorobiphenyl (S)	%						94	106	47-145			
Tetrachloro-m-xylene (S)	%						85	90	40-136			

Date: 10/15/2008 04:10 PM REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

QC Batch: OEXT/2778 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 408719001, 408719002, 408719003, 408719004, 408719005, 408719006, 408719007, 408719008, 408719009,

408719010, 408719011, 408719012, 408719013, 408719014, 408719015, 408719016, 408719017, 408719018,

408719019, 408719020

METHOD BLANK: 80963 Matrix: Tissue

Associated Lab Samples: 408719001, 408719002, 408719003, 408719004, 408719005, 408719006, 408719007, 408719008, 408719009,

408719010, 408719011, 408719012, 408719013, 408719014, 408719015, 408719016, 408719017, 408719018,

408719019, 408719020

SAMPLE DUPLICATE: 80964

Date: 10/15/2008 04:10 PM

Lipid

408719001 Dup Max RPD Parameter Units Result Result **RPD** Qualifiers % 2.7 3.7 30 20 Lipid





QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/15/2008 04:10 PM

Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408719

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408719001	BL-IH-W2-G, 9/5/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719002	BL-IH-W3-G, 9/5/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719003	BL-UR1-AC5-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719004	BL-UR1-AC6-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719005	BL-UR1-AC7-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719006	BL-UR1-AC8-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719007	BL-UR1-AC9-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719008	BL-UR1-AC10-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719009	BL-UR1-AC11-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719010	BL-UR1-AC12-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719011	BL-UR1-AC13-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719012	BL-UR1-AC14-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719013	BL-UR1-AC15-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719014	BL-UR1-AC16-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719015	BL-UR1-AWS5-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719016	BL-UR1-AWS6-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719017	BL-UR1-AWS7-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719018	BL-UR1-AWS8-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719019	BL-UR2-AC5-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
108719020	BL-UR2-AC6-G, 9/6/08	EPA 3540	OEXT/2766	EPA 8082	GCSV/1944
408719001	BL-IH-W2-G, 9/5/08	Pace Lipid	OEXT/2778		
108719002	BL-IH-W3-G, 9/5/08	Pace Lipid	OEXT/2778		
408719003	BL-UR1-AC5-G, 9/6/08	Pace Lipid	OEXT/2778		
108719004	BL-UR1-AC6-G, 9/6/08	Pace Lipid	OEXT/2778		
408719005	BL-UR1-AC7-G, 9/6/08	Pace Lipid	OEXT/2778		
108719006	BL-UR1-AC8-G, 9/6/08	Pace Lipid	OEXT/2778		
408719007	BL-UR1-AC9-G, 9/6/08	Pace Lipid	OEXT/2778		
108719008	BL-UR1-AC10-G, 9/6/08	Pace Lipid	OEXT/2778		
108719009	BL-UR1-AC11-G, 9/6/08	Pace Lipid	OEXT/2778		
108719010	BL-UR1-AC12-G, 9/6/08	Pace Lipid	OEXT/2778		
108719011	BL-UR1-AC13-G, 9/6/08	Pace Lipid	OEXT/2778		
108719012	BL-UR1-AC14-G, 9/6/08	Pace Lipid	OEXT/2778		
108719013	BL-UR1-AC15-G, 9/6/08	Pace Lipid	OEXT/2778		
108719014	BL-UR1-AC16-G, 9/6/08	Pace Lipid	OEXT/2778		
08719015	BL-UR1-AWS5-G, 9/6/08	Pace Lipid	OEXT/2778		
108719016	BL-UR1-AWS6-G, 9/6/08	Pace Lipid	OEXT/2778		
108719017	BL-UR1-AWS7-G, 9/6/08	Pace Lipid	OEXT/2778		
408719018	BL-UR1-AWS8-G, 9/6/08	Pace Lipid	OEXT/2778		
408719019	BL-UR2-AC5-G, 9/6/08	Pace Lipid	OEXT/2778		
408719020	BL-UR2-AC6-G, 9/6/08	Pace Lipid	OEXT/2778		





October 17, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on August 26, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

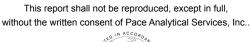
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750 Wisconsin Certification #: 405132750 South Carolina Certification #: 83006001 South Carolina Certification #: 83006001 Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334 North Carolina Certification #: 503 North Carolina Certification #: 503 North Dakota Certification #: R-200 North Dakota Certification #: R-150 New York Certification #: 11888 New York Certification #: 11887 Illinois Certification #: 200051 Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408210001	BL-UR1-AC2-G,8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210002	BL-UR1-AC4-G, 8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210003	BL-UR1-AC3-G, 8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210004	BL-UR1-AWS1-G, 8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210005	BL-UR1-AWS2-G, 8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210006	BL-UR1-SB1-G, 8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210007	BL-UR1-SB2-G, 8/18/08	Tissue	08/18/08 00:00	08/26/08 15:30
408210008	BL-UR1-AC1-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210009	BL-UR1-JWS1-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210010	BL-UR1-AWS4-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210011	BL-UR1-AWS3-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210012	BL-UR1-JWS4-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210013	BL-UR1-SB3-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210014	BL-UR1-SB4-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210015	BL-UR1-SB5-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210016	BL-UR1-SB6-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210017	BL-UR1-SB7-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210018	BL-UR1-SB8-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210019	BL-UR1-RB1-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408210020	BL-UR1-JWS2-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408210001	BL-UR1-AC2-G,8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210002	BL-UR1-AC4-G, 8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210003	BL-UR1-AC3-G, 8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210004	BL-UR1-AWS1-G, 8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210005	BL-UR1-AWS2-G, 8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210006	BL-UR1-SB1-G, 8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210007	BL-UR1-SB2-G, 8/18/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210008	BL-UR1-AC1-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210009	BL-UR1-JWS1-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210010	BL-UR1-AWS4-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210011	BL-UR1-AWS3-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210012	BL-UR1-JWS4-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210013	BL-UR1-SB3-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210014	BL-UR1-SB4-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210015	BL-UR1-SB5-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210016	BL-UR1-SB6-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210017	BL-UR1-SB7-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210018	BL-UR1-SB8-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408210019	BL-UR1-RB1-G, 8/19/08	EPA 8082	CAH	10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Lab ID	Sample ID	Method	Analysts	Analytes Reported
	•	Pace Lipid	DAL	1
408210020	BL-UR1-JWS2-G, 8/19/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2721

- S4: Surrogate recovery not evaluated against control limits due to sample dilution.
 - BL-UR1-AC1-G, 8/19/08 (Lab ID: 408210008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC2-G,8/18/08 (Lab ID: 408210001)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AC4-G, 8/18/08 (Lab ID: 408210002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AWS1-G, 8/18/08 (Lab ID: 408210004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AWS2-G, 8/18/08 (Lab ID: 408210005)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AWS3-G, 8/19/08 (Lab ID: 408210011)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-AWS4-G, 8/19/08 (Lab ID: 408210010)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-JWS1-G, 8/19/08 (Lab ID: 408210009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-JWS2-G, 8/19/08 (Lab ID: 408210020)

REPORT OF LABORATORY ANALYSIS

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

QC Batch: OEXT/2721

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

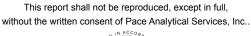
- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-UR1-RB1-G, 8/19/08 (Lab ID: 408210019)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB1-G, 8/18/08 (Lab ID: 408210006)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB2-G, 8/18/08 (Lab ID: 408210007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB3-G, 8/19/08 (Lab ID: 408210013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB4-G, 8/19/08 (Lab ID: 408210014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB5-G, 8/19/08 (Lab ID: 408210015)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB6-G, 8/19/08 (Lab ID: 408210016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB7-G, 8/19/08 (Lab ID: 408210017)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-SB8-G, 8/19/08 (Lab ID: 408210018)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 79343)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 79344)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.



REPORT OF LABORATORY ANALYSIS







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AC2-G,8/18/08 Lab ID: 408210001 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<9500 (ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<9500 ≀	ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<9500 ≀	ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<9500 ≀	ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	53469-21-9	
PCB-1248 (Aroclor 1248)	47300 t	ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	12672-29-6	
PCB-1254 (Aroclor 1254)	25800 (ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<9500 ≀	ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	11096-82-5	
PCB, Total	73100 t	ıg/kg	25000	9500	500	09/21/08 15:38	09/29/08 18:52	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		500	09/21/08 15:38	09/29/08 18:52	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		500	09/21/08 15:38	09/29/08 18:52	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	1.3	%		0.10	1		09/24/08 07:23		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AC4-G, 8/18/08 Lab ID: 408210002 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<380 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	53469-21-9	
PCB-1248 (Aroclor 1248)	5340 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	12672-29-6	
PCB-1254 (Aroclor 1254)	2110 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	11096-82-5	
PCB, Total	7440 ug	g/kg	1000	380	20	09/21/08 15:38	09/29/08 19:18	1336-36-3	
Tetrachloro-m-xylene (S)	0 %)	40-136		20	09/21/08 15:38	09/29/08 19:18	877-09-8	S4
Decachlorobiphenyl (S)	0 %)	47-145		20	09/21/08 15:38	09/29/08 19:18	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.4 %)		0.10	1		09/24/08 07:23		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AC3-G, 8/18/08 Lab ID: 408210003 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ∪	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	53469-21-9	
PCB-1248 (Aroclor 1248)	915 ເ	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	12672-29-6	
PCB-1254 (Aroclor 1254)	597 ι	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	11097-69-1	
PCB-1260 (Aroclor 1260)	121J ւ	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	11096-82-5	
PCB, Total	1630 ւ	ıg/kg	250	95.0	5	09/21/08 15:38	09/29/08 19:44	1336-36-3	
Tetrachloro-m-xylene (S)	89 9	%	40-136		5	09/21/08 15:38	09/29/08 19:44	877-09-8	
Decachlorobiphenyl (S)	101 9	%	47-145		5	09/21/08 15:38	09/29/08 19:44	2051-24-3	
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	4.8	%		0.10	1		09/24/08 07:24		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AWS1-G, 8/18/08 Lab ID: 408210004 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 (ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	53469-21-9	
PCB-1248 (Aroclor 1248)	9800 t	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	12672-29-6	
PCB-1254 (Aroclor 1254)	6070 ι	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	11096-82-5	
PCB, Total	15900 ւ	ıg/kg	2500	950	50	09/21/08 15:38	09/29/08 20:09	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/21/08 15:38	09/29/08 20:09	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/21/08 15:38	09/29/08 20:09	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.4	%		0.10	1		09/24/08 07:24		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AWS2-G, 8/18/08 Lab ID: 408210005 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	N 8082 Prepai	ration Meth	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	53469-21-9	
PCB-1248 (Aroclor 1248)	10500 ເ	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	12672-29-6	
PCB-1254 (Aroclor 1254)	6020 (ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	11096-82-5	
PCB, Total	16600 (ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 20:35	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/21/08 15:38	09/29/08 20:35	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/21/08 15:38	09/29/08 20:35	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	1.3	%		0.10	1		09/24/08 07:25		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB1-G, 8/18/08 Lab ID: 408210006 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	53469-21-9	
PCB-1248 (Aroclor 1248)	8160 ເ	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	12672-29-6	
PCB-1254 (Aroclor 1254)	10400 ւ	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	11096-82-5	
PCB, Total	18600 ւ	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:01	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/21/08 15:38	09/29/08 21:01	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/21/08 15:38	09/29/08 21:01	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.62	%		0.10	1		09/24/08 07:25		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB2-G, 8/18/08 Lab ID: 408210007 Collected: 08/18/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 (ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	53469-21-9	
PCB-1248 (Aroclor 1248)	10600 (ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	12672-29-6	
PCB-1254 (Aroclor 1254)	10900 ເ	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 เ	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	11096-82-5	
PCB, Total	21500 ເ	ug/kg	5000	1900	100	09/21/08 15:38	09/29/08 21:27	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/21/08 15:38	09/29/08 21:27	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/21/08 15:38	09/29/08 21:27	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	0.40	%		0.10	1		09/24/08 07:25		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AC1-G, 8/19/08 Lab ID: 408210008 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Meth	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<3800 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<3800 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<3800 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<3800 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	53469-21-9	
PCB-1248 (Aroclor 1248)	23500 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	12672-29-6	
PCB-1254 (Aroclor 1254)	13500 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<3800 (ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	11096-82-5	
PCB, Total	37000 t	ug/kg	10000	3800	200	09/21/08 15:38	09/29/08 21:52	1336-36-3	
Tetrachloro-m-xylene (S)	0 (%	40-136		200	09/21/08 15:38	09/29/08 21:52	877-09-8	S4
Decachlorobiphenyl (S)	0 '	%	47-145		200	09/21/08 15:38	09/29/08 21:52	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	4.6	%		0.10	1		09/24/08 07:25		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-JWS1-G, 8/19/08 Lab ID: 408210009 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<715 ∪	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<715 ∪	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<715 ∪	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<715 ∪	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	53469-21-9	
PCB-1248 (Aroclor 1248)	3950 U	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	12672-29-6	
PCB-1254 (Aroclor 1254)	5770 U	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	11097-69-1	
PCB-1260 (Aroclor 1260)	<715 ∪	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	11096-82-5	
PCB, Total	9710 U	ıg/kg	1880	715	20	09/21/08 15:38	09/29/08 23:10	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/21/08 15:38	09/29/08 23:10	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/21/08 15:38	09/29/08 23:10	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.15 %	6		0.10	1		09/24/08 07:26		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AWS4-G, 8/19/08 Lab ID: 408210010 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	53469-21-9	
PCB-1248 (Aroclor 1248)	12000	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	12672-29-6	
PCB-1254 (Aroclor 1254)	8670 ເ	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	11096-82-5	
PCB, Total	20600 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/29/08 23:35	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/21/08 15:38	09/29/08 23:35	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/21/08 15:38	09/29/08 23:35	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	1.5	%		0.10	1		09/24/08 07:26		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-AWS3-G, 8/19/08 Lab ID: 408210011 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ∪	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ∪	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ∪	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	53469-21-9	
PCB-1248 (Aroclor 1248)	5050 υ	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	12672-29-6	
PCB-1254 (Aroclor 1254)	5260 և	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ∪	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	11096-82-5	
PCB, Total	10300 և	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:01	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		50	09/21/08 15:38	09/30/08 00:01	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		50	09/21/08 15:38	09/30/08 00:01	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.56 %	%		0.10	1		09/24/08 07:26		

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REPORT OF LABORATORY ANALYSIS





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-JWS4-G, 8/19/08 Lab ID: 408210012 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<236 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<236 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<236 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<236 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	53469-21-9	
PCB-1248 (Aroclor 1248)	2180 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	12672-29-6	
PCB-1254 (Aroclor 1254)	2410 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	11097-69-1	
PCB-1260 (Aroclor 1260)	263J u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	11096-82-5	
PCB, Total	4850 u	g/kg	621	236	4	09/21/08 15:38	09/30/08 00:26	1336-36-3	
Tetrachloro-m-xylene (S)	87 %	6	40-136		4	09/21/08 15:38	09/30/08 00:26	877-09-8	
Decachlorobiphenyl (S)	104 %	6	47-145		4	09/21/08 15:38	09/30/08 00:26	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.25 %	6		0.10	1		09/24/08 07:26		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB3-G, 8/19/08 Lab ID: 408210013 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	53469-21-9	
PCB-1248 (Aroclor 1248)	7700 ι	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	12672-29-6	
PCB-1254 (Aroclor 1254)	7490 ι	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	11096-82-5	
PCB, Total	15200 ւ	ıg/kg	2500	950	50	09/21/08 15:38	09/30/08 00:52	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/21/08 15:38	09/30/08 00:52	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/21/08 15:38	09/30/08 00:52	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	1.4 %	%		0.10	1		09/24/08 07:26		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB4-G, 8/19/08 Lab ID: 408210014 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	53469-21-9	
PCB-1248 (Aroclor 1248)	9470 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	12672-29-6	
PCB-1254 (Aroclor 1254)	12700 ւ	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	11096-82-5	
PCB, Total	22200 t	ıg/kg	5000	1900	100	09/21/08 15:38	09/30/08 01:18	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/21/08 15:38	09/30/08 01:18	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/21/08 15:38	09/30/08 01:18	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.49	%		0.10	1		09/24/08 07:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB5-G, 8/19/08 Lab ID: 408210015 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	N 8082 Prepar	ation Meth	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 €	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ∖	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	53469-21-9	
PCB-1248 (Aroclor 1248)	3660 t	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	12672-29-6	
PCB-1254 (Aroclor 1254)	3670 ι	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	11096-82-5	
PCB, Total	7330 t	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 01:43	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/21/08 15:38	09/30/08 01:43	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/21/08 15:38	09/30/08 01:43	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	0.70	%		0.10	1		09/24/08 07:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB6-G, 8/19/08 Lab ID: 408210016 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	53469-21-9	
PCB-1248 (Aroclor 1248)	3010 (ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	12672-29-6	
PCB-1254 (Aroclor 1254)	3130 ι	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	11096-82-5	
PCB, Total	6140 ι	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:09	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/21/08 15:38	09/30/08 02:09	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/21/08 15:38	09/30/08 02:09	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.76	%		0.10	1		09/24/08 07:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB7-G, 8/19/08 Lab ID: 408210017 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	53469-21-9	
PCB-1248 (Aroclor 1248)	4830 ι	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	12672-29-6	
PCB-1254 (Aroclor 1254)	3770	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	11096-82-5	
PCB, Total	8590 ເ	ıg/kg	1500	570	30	09/21/08 15:38	09/30/08 02:35	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/21/08 15:38	09/30/08 02:35	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/21/08 15:38	09/30/08 02:35	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	1.2	%		0.10	1		09/24/08 07:27		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-SB8-G, 8/19/08 Lab ID: 408210018 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	53469-21-9	
PCB-1248 (Aroclor 1248)	1470 ւ	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	12672-29-6	
PCB-1254 (Aroclor 1254)	2620 t	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	11096-82-5	
PCB, Total	4090 ւ	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:00	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/21/08 15:38	09/30/08 03:00	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/21/08 15:38	09/30/08 03:00	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.43	%		0.10	1		09/24/08 07:28		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-RB1-G, 8/19/08 Lab ID: 408210019 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	53469-21-9	
PCB-1248 (Aroclor 1248)	3170 ເ	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	12672-29-6	
PCB-1254 (Aroclor 1254)	3360 t	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	11096-82-5	
PCB, Total	6530 ι	ıg/kg	1000	380	20	09/21/08 15:38	09/30/08 03:26	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/21/08 15:38	09/30/08 03:26	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/21/08 15:38	09/30/08 03:26	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.42	%		0.10	1		09/24/08 07:28		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Sample: BL-UR1-JWS2-G, 8/19/08 Lab ID: 408210020 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<797 t	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<797 ≀	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<797 ≀	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<797 ≀	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	53469-21-9	
PCB-1248 (Aroclor 1248)	3910 ւ	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	12672-29-6	
PCB-1254 (Aroclor 1254)	5020 ι	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<797 ≀	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	11096-82-5	
PCB, Total	8930 ւ	ıg/kg	2100	797	20	09/21/08 15:38	09/30/08 03:52	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		20	09/21/08 15:38	09/30/08 03:52	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/21/08 15:38	09/30/08 03:52	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.37	%		0.10	1		09/24/08 07:28		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

QC Batch: OEXT/2721 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408210001, 408210002, 408210003, 408210004, 408210005, 408210006, 408210007, 408210008, 408210009,

408210010, 408210011, 408210012, 408210013, 408210014, 408210015, 408210016, 408210017, 408210018,

408210019, 408210020

METHOD BLANK: 79341 Matrix: Tissue

Associated Lab Samples: 408210001, 408210002, 408210003, 408210004, 408210005, 408210006, 408210007, 408210008, 408210009,

408210010, 408210011, 408210012, 408210013, 408210014, 408210015, 408210016, 408210017, 408210018,

408210019, 408210020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	09/29/08 17:09	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	09/29/08 17:09	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	09/29/08 17:09	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	09/29/08 17:09	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	09/29/08 17:09	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	09/29/08 17:09	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	09/29/08 17:09	
Decachlorobiphenyl (S)	%	95	47-145	09/29/08 17:09	
Tetrachloro-m-xylene (S)	%	88	40-136	09/29/08 17:09	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	229	91	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			89	47-145	
Tetrachloro-m-xylene (S)	%			83	40-136	

MATRIX SPIKE & MATRIX SF	PIKE DUPLICAT	E: 79343			79344							
		408210002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		Qual
PCB-1016 (Aroclor 1016)	ug/kg	<380			<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<380			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<380			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<380			<380	<380					56	
PCB-1248 (Aroclor 1248)	ug/kg	5340			5290	4910				7	56	
PCB-1254 (Aroclor 1254)	ug/kg	2110	1000	1000	3050	2860	94	75	43-130	7	56	
PCB-1260 (Aroclor 1260)	ug/kg	<380			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

QC Batch: OEXT/2747 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 408210001, 408210002, 408210003, 408210004, 408210005, 408210006, 408210007, 408210008, 408210009,

408210010, 408210011, 408210012, 408210013, 408210014, 408210015, 408210016, 408210017, 408210018,

408210019, 408210020

METHOD BLANK: 79864 Matrix: Tissue

Associated Lab Samples: 408210001, 408210002, 408210003, 408210004, 408210005, 408210006, 408210007, 408210008, 408210009,

408210010, 408210011, 408210012, 408210013, 408210014, 408210015, 408210016, 408210017, 408210018,

408210019, 408210020

 Parameter
 Units
 Blank Reporting Result
 Limit
 Analyzed
 Qualifiers

 %
 <0.10</td>
 09/24/08 07:23

SAMPLE DUPLICATE: 79865

Date: 10/17/2008 03:49 PM

Lipid

		408210002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid	 %	4.4	4.2	5	20	

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/17/2008 03:49 PM

Surrogate recovery not evaluated against control limits due to sample dilution.

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408210

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408210001	BL-UR1-AC2-G,8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210002	BL-UR1-AC4-G, 8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210003	BL-UR1-AC3-G, 8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210004	BL-UR1-AWS1-G, 8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210005	BL-UR1-AWS2-G, 8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210006	BL-UR1-SB1-G, 8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210007	BL-UR1-SB2-G, 8/18/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210008	BL-UR1-AC1-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210009	BL-UR1-JWS1-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210010	BL-UR1-AWS4-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210011	BL-UR1-AWS3-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210012	BL-UR1-JWS4-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210013	BL-UR1-SB3-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210014	BL-UR1-SB4-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210015	BL-UR1-SB5-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210016	BL-UR1-SB6-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210017	BL-UR1-SB7-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210018	BL-UR1-SB8-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210019	BL-UR1-RB1-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210020	BL-UR1-JWS2-G, 8/19/08	EPA 3540	OEXT/2721	EPA 8082	GCSV/1936
408210001	BL-UR1-AC2-G,8/18/08	Pace Lipid	OEXT/2747		
408210002	BL-UR1-AC4-G, 8/18/08	Pace Lipid	OEXT/2747		
408210003	BL-UR1-AC3-G, 8/18/08	Pace Lipid	OEXT/2747		
408210004	BL-UR1-AWS1-G, 8/18/08	Pace Lipid	OEXT/2747		
408210005	BL-UR1-AWS2-G, 8/18/08	Pace Lipid	OEXT/2747		
408210006	BL-UR1-SB1-G, 8/18/08	Pace Lipid	OEXT/2747		
408210007	BL-UR1-SB2-G, 8/18/08	Pace Lipid	OEXT/2747		
408210008	BL-UR1-AC1-G, 8/19/08	Pace Lipid	OEXT/2747		
408210009	BL-UR1-JWS1-G, 8/19/08	Pace Lipid	OEXT/2747		
408210010	BL-UR1-AWS4-G, 8/19/08	Pace Lipid	OEXT/2747		
408210011	BL-UR1-AWS3-G, 8/19/08	Pace Lipid	OEXT/2747		
408210012	BL-UR1-JWS4-G, 8/19/08	Pace Lipid	OEXT/2747		
408210013	BL-UR1-SB3-G, 8/19/08	Pace Lipid	OEXT/2747		
408210014	BL-UR1-SB4-G, 8/19/08	Pace Lipid	OEXT/2747		
408210015	BL-UR1-SB5-G, 8/19/08	Pace Lipid	OEXT/2747		
408210016	BL-UR1-SB6-G, 8/19/08	Pace Lipid	OEXT/2747		
408210017	BL-UR1-SB7-G, 8/19/08	Pace Lipid	OEXT/2747		
408210018	BL-UR1-SB8-G, 8/19/08	Pace Lipid	OEXT/2747		
408210019	BL-UR1-RB1-G, 8/19/08	Pace Lipid	OEXT/2747		
408210020	BL-UR1-JWS2-G, 8/19/08	Pace Lipid	OEXT/2747		

Date: 10/17/2008 03:49 PM

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October 15, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on August 28, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408330001	BL-UR2-AWS2-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330002	BL-UR2-SB6, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330003	BL-UR2-AWS3-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330004	BL-UR2-AC1-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330005	BL-UR2-AC2-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330006	BL-UR2-AC3-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330007	BL-UR2-SB7-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330008	BL-UR2-JWS1-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330009	BL-UR2-JWS2-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330010	BL-UR2-AWS4-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330011	BL-UR2-AC4-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330012	BL-UR2-SB8-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330013	BL-UR2-JWS3-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330014	BL-UR2-JWS4-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330015	BL-UR2-JWS5-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330016	BL-UR2-JWS6-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330017	BL-UR2-JWS7-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330018	BL-UR2-JWS8-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330019	BL-UR2-RB3-G, 8/21/08	Tissue	08/21/08 00:00	08/28/08 14:50
408330020	BL-UR2-RB4-G, 8/22/08	Tissue	08/22/08 00:00	08/28/08 14:50





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408330001	BL-UR2-AWS2-G, 8/21/08	EPA 8082	BDS	10
	,	Pace Lipid	KPH	1
408330002	BL-UR2-SB6, 8/21/08	EPA 8082	BDS	10
	•	Pace Lipid	KPH	1
408330003	BL-UR2-AWS3-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330004	BL-UR2-AC1-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330005	BL-UR2-AC2-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330006	BL-UR2-AC3-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330007	BL-UR2-SB7-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330008	BL-UR2-JWS1-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330009	BL-UR2-JWS2-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330010	BL-UR2-AWS4-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330011	BL-UR2-AC4-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330012	BL-UR2-SB8-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330013	BL-UR2-JWS3-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330014	BL-UR2-JWS4-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330015	BL-UR2-JWS5-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330016	BL-UR2-JWS6-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330017	BL-UR2-JWS7-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330018	BL-UR2-JWS8-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408330019	BL-UR2-RB3-G, 8/21/08	EPA 8082	BDS	10

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	KPH	1
408330020	BL-UR2-RB4-G, 8/22/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2776

- S4: Surrogate recovery not evaluated against control limits due to sample dilution.
 - BL-UR2-AC1-G, 8/21/08 (Lab ID: 408330004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC2-G, 8/21/08 (Lab ID: 408330005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC4-G, 8/21/08 (Lab ID: 408330011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AWS2-G, 8/21/08 (Lab ID: 408330001)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AWS3-G, 8/21/08 (Lab ID: 408330003)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AWS4-G, 8/21/08 (Lab ID: 408330010)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-JWS1-G, 8/21/08 (Lab ID: 408330008)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-JWS2-G, 8/21/08 (Lab ID: 408330009)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-JWS5-G, 8/21/08 (Lab ID: 408330015)

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PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 15, 2008

QC Batch: OEXT/2776

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-UR2-JWS8-G, 8/21/08 (Lab ID: 408330018)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-RB3-G, 8/21/08 (Lab ID: 408330019)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-RB4-G, 8/22/08 (Lab ID: 408330020)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-SB6, 8/21/08 (Lab ID: 408330002)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-SB7-G, 8/21/08 (Lab ID: 408330007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-SB8-G, 8/21/08 (Lab ID: 408330012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 80752)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 80753)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



REPORT OF LABORATORY ANALYSIS







PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

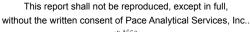
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





REPORT OF LABORATORY ANALYSIS



Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AWS2-G, 8/21/08 Lab ID: 408330001 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	53469-21-9	
PCB-1248 (Aroclor 1248)	6980 ւ	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	12672-29-6	
PCB-1254 (Aroclor 1254)	5060 ι	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	11096-82-5	
PCB, Total	12000 ւ	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 17:46	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/25/08 14:05	10/01/08 17:46	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/25/08 14:05	10/01/08 17:46	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	1.3 %	%		0.10	1		09/29/08 07:30		

Date: 10/15/2008 04:14 PM

REPORT OF LABORATORY ANALYSIS

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-SB6, 8/21/08 Lab ID: 408330002 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	53469-21-9	
PCB-1248 (Aroclor 1248)	3460 t	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	12672-29-6	
PCB-1254 (Aroclor 1254)	2960 ւ	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	11096-82-5	
PCB, Total	6410 ι	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 18:14	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/25/08 14:05	10/01/08 18:14	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/25/08 14:05	10/01/08 18:14	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.97	%		0.10	1		09/29/08 07:30		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AWS3-G, 8/21/08 Lab ID: 408330003 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 ∪	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	53469-21-9	
PCB-1248 (Aroclor 1248)	3000 ι	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	12672-29-6	
PCB-1254 (Aroclor 1254)	2050 ເ	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	11096-82-5	
PCB, Total	5040 ւ	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 18:42	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/25/08 14:05	10/01/08 18:42	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/25/08 14:05	10/01/08 18:42	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.1 %	%		0.10	1		09/29/08 07:30		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AC1-G, 8/21/08 Lab ID: 408330004 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	53469-21-9	
PCB-1248 (Aroclor 1248)	24100 t	ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	12672-29-6	
PCB-1254 (Aroclor 1254)	10400 ւ	ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	11096-82-5	
PCB, Total	34500 (ıg/kg	5000	1900	100	09/25/08 14:05	10/01/08 19:10	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/25/08 14:05	10/01/08 19:10	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/25/08 14:05	10/01/08 19:10	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	7.4	%		0.10	1		09/29/08 07:31		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AC2-G, 8/21/08 Lab ID: 408330005 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	53469-21-9	
PCB-1248 (Aroclor 1248)	3760 t	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	12672-29-6	
PCB-1254 (Aroclor 1254)	1380 ւ	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	11096-82-5	
PCB, Total	5140 ι	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 19:38	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/25/08 14:05	10/01/08 19:38	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/25/08 14:05	10/01/08 19:38	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	2.0	%		0.10	1		09/29/08 07:31		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AC3-G, 8/21/08 Lab ID: 408330006 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 U	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 U	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 U	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	53469-21-9	
PCB-1248 (Aroclor 1248)	2200 U	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	12672-29-6	
PCB-1254 (Aroclor 1254)	975 u	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 U	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	11096-82-5	
PCB, Total	3180 U	ıg/kg	500	190	10	09/25/08 14:05	10/01/08 20:06	1336-36-3	
Tetrachloro-m-xylene (S)	77 %	6	40-136		10	09/25/08 14:05	10/01/08 20:06	877-09-8	
Decachlorobiphenyl (S)	92 %	6	47-145		10	09/25/08 14:05	10/01/08 20:06	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.0 %	6		0.10	1		09/29/08 07:32		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-SB7-G, 8/21/08 Lab ID: 408330007 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical M	/lethod: EPA	8082 Prepar	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<950 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	53469-21-9	
PCB-1248 (Aroclor 1248)	7090 ug	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	12672-29-6	
PCB-1254 (Aroclor 1254)	6380 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	11096-82-5	
PCB, Total	13500 ug/	/kg	2500	950	50	09/25/08 14:05	10/01/08 20:34	1336-36-3	
Tetrachloro-m-xylene (S)	0 %		40-136		50	09/25/08 14:05	10/01/08 20:34	877-09-8	S4
Decachlorobiphenyl (S)	0 %		47-145		50	09/25/08 14:05	10/01/08 20:34	2051-24-3	S4
Lipid	Analytical M	/lethod: Pace	e Lipid						
Lipid	1.7 %			0.10	1		09/29/08 07:32		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS1-G, 8/21/08 Lab ID: 408330008 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<507 ∪	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<507 ∪	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<507 ∪	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<507 ∪	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	53469-21-9	
PCB-1248 (Aroclor 1248)	1200J U	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	12672-29-6	
PCB-1254 (Aroclor 1254)	3180 u	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<507 U	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	11096-82-5	
PCB, Total	4390 U	ıg/kg	1330	507	20	09/25/08 14:05	10/01/08 21:02	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/25/08 14:05	10/01/08 21:02	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/25/08 14:05	10/01/08 21:02	2051-24-3	S4
Lipid	Analytical	Method: Pac	ce Lipid						
Lipid	0.51 %	%		0.10	1		09/29/08 07:32		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS2-G, 8/21/08 Lab ID: 408330009 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<760 ∪	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	53469-21-9	
PCB-1248 (Aroclor 1248)	5900 ւ	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	12672-29-6	
PCB-1254 (Aroclor 1254)	5570 ι	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	11096-82-5	
PCB, Total	11500 ւ	ıg/kg	2000	760	30	09/25/08 14:05	10/01/08 22:27	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/25/08 14:05	10/01/08 22:27	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/25/08 14:05	10/01/08 22:27	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	0.45	%		0.10	1		09/29/08 07:32		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AWS4-G, 8/21/08 Lab ID: 408330010 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	53469-21-9	
PCB-1248 (Aroclor 1248)	5510 ւ	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	12672-29-6	
PCB-1254 (Aroclor 1254)	3930 ເ	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	11096-82-5	
PCB, Total	9440 ι	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 22:55	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/25/08 14:05	10/01/08 22:55	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/25/08 14:05	10/01/08 22:55	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.72	%		0.10	1		09/29/08 07:33		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-AC4-G, 8/21/08 Lab ID: 408330011 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	53469-21-9	
PCB-1248 (Aroclor 1248)	5290 ι	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	12672-29-6	
PCB-1254 (Aroclor 1254)	2550 ւ	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	11096-82-5	
PCB, Total	7840 ι	ıg/kg	1000	380	20	09/25/08 14:05	10/01/08 23:23	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		20	09/25/08 14:05	10/01/08 23:23	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		20	09/25/08 14:05	10/01/08 23:23	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.6	%		0.10	1		09/29/08 07:33		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-SB8-G, 8/21/08 Lab ID: 408330012 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	53469-21-9	
PCB-1248 (Aroclor 1248)	5460 (ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	12672-29-6	
PCB-1254 (Aroclor 1254)	5050 ι	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	11096-82-5	
PCB, Total	10500 ເ	ıg/kg	1500	570	30	09/25/08 14:05	10/01/08 23:51	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/25/08 14:05	10/01/08 23:51	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/25/08 14:05	10/01/08 23:51	2051-24-3	S4
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	1.3	%		0.10	1		09/29/08 07:33		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS3-G, 8/21/08 Lab ID: 408330013 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<304 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<304 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<304 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<304 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	53469-21-9	
PCB-1248 (Aroclor 1248)	2620 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	12672-29-6	
PCB-1254 (Aroclor 1254)	2740 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	11097-69-1	
PCB-1260 (Aroclor 1260)	353J U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	11096-82-5	
PCB, Total	5710 U	ıg/kg	800	304	4	09/25/08 14:05	10/02/08 00:19	1336-36-3	
Tetrachloro-m-xylene (S)	88 %	6	40-136		4	09/25/08 14:05	10/02/08 00:19	877-09-8	
Decachlorobiphenyl (S)	92 %	6	47-145		4	09/25/08 14:05	10/02/08 00:19	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.58 %	6		0.10	1		09/29/08 07:33		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS4-G, 8/21/08 Lab ID: 408330014 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	53469-21-9	
PCB-1248 (Aroclor 1248)	3250 ι	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	12672-29-6	
PCB-1254 (Aroclor 1254)	2710 ւ		1000	380	5	09/25/08 14:05	10/02/08 00:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	11096-82-5	
PCB, Total	5960 ւ	ıg/kg	1000	380	5	09/25/08 14:05	10/02/08 00:47	1336-36-3	
Tetrachloro-m-xylene (S)	87 9	%	40-136		5	09/25/08 14:05	10/02/08 00:47	877-09-8	
Decachlorobiphenyl (S)	93 %	%	47-145		5	09/25/08 14:05	10/02/08 00:47	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.44	%		0.10	1		09/29/08 07:34		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS5-G, 8/21/08 Lab ID: 408330015 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	53469-21-9	
PCB-1248 (Aroclor 1248)	2900 ւ	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	12672-29-6	
PCB-1254 (Aroclor 1254)	6420 ι	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	11096-82-5	
PCB, Total	9320 ι	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 01:15	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/25/08 14:05	10/02/08 01:15	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/25/08 14:05	10/02/08 01:15	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.49	%		0.10	1		09/29/08 07:34		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS6-G, 8/21/08 Lab ID: 408330016 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<253 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<253 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<253 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<253 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	53469-21-9	
PCB-1248 (Aroclor 1248)	1620 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	12672-29-6	
PCB-1254 (Aroclor 1254)	2560 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<253 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	11096-82-5	
PCB, Total	4170 U	ıg/kg	667	253	10	09/25/08 14:05	10/02/08 01:43	1336-36-3	
Tetrachloro-m-xylene (S)	81 %	6	40-136		10	09/25/08 14:05	10/02/08 01:43	877-09-8	
Decachlorobiphenyl (S)	92 %	6	47-145		10	09/25/08 14:05	10/02/08 01:43	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.41 %	6		0.10	1		09/29/08 07:34		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS7-G, 8/21/08 Lab ID: 408330017 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ug/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 t	ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	53469-21-9	
PCB-1248 (Aroclor 1248)	1960 ւ	ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	12672-29-6	
PCB-1254 (Aroclor 1254)	1780 ւ	ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	11096-82-5	
PCB, Total	3730 (ıg/kg	500	190	10	09/25/08 14:05	10/02/08 02:12	1336-36-3	
Tetrachloro-m-xylene (S)	89 9	%	40-136		10	09/25/08 14:05	10/02/08 02:12	877-09-8	
Decachlorobiphenyl (S)	100 9	%	47-145		10	09/25/08 14:05	10/02/08 02:12	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.60	%		0.10	1		09/29/08 07:34		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-JWS8-G, 8/21/08 Lab ID: 408330018 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	53469-21-9	
PCB-1248 (Aroclor 1248)	4500 ւ	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	12672-29-6	
PCB-1254 (Aroclor 1254)	5280 ι	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	11096-82-5	
PCB, Total	9780 ເ	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 02:40	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/25/08 14:05	10/02/08 02:40	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/25/08 14:05	10/02/08 02:40	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.51	%		0.10	1		09/29/08 07:35		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-RB3-G, 8/21/08 Lab ID: 408330019 Collected: 08/21/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	53469-21-9	
PCB-1248 (Aroclor 1248)	4410 ι	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	12672-29-6	
PCB-1254 (Aroclor 1254)	3840 t	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	11096-82-5	
PCB, Total	8250 t	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:08	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	6	40-136		20	09/25/08 14:05	10/02/08 03:08	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/25/08 14:05	10/02/08 03:08	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.98	%		0.10	1		09/29/08 07:35		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Sample: BL-UR2-RB4-G, 8/22/08 Lab ID: 408330020 Collected: 08/22/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<760 (ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	53469-21-9	
PCB-1248 (Aroclor 1248)	4690 ւ	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	12672-29-6	
PCB-1254 (Aroclor 1254)	4040 ւ	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ≀	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	11096-82-5	
PCB, Total	8720 ι	ıg/kg	2000	760	20	09/25/08 14:05	10/02/08 03:36	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/25/08 14:05	10/02/08 03:36	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/25/08 14:05	10/02/08 03:36	2051-24-3	S4
Lipid	Analytica	Method: Pac	ce Lipid						
Lipid	1.2	%		0.10	1		09/29/08 07:35		

Date: 10/15/2008 04:14 PM

REPORT OF LABORATORY ANALYSIS





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

QC Batch: OEXT/2776 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408330001, 408330002, 408330003, 408330004, 408330005, 408330006, 408330007, 408330008, 408330009,

408330010, 408330011, 408330012, 408330013, 408330014, 408330015, 408330016, 408330017, 408330018, 40830018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018, 40800018

408330019, 408330020

METHOD BLANK: 80750 Matrix: Tissue

Associated Lab Samples: 408330001, 408330002, 408330003, 408330004, 408330005, 408330006, 408330007, 408330008, 408330009,

408330010, 408330011, 408330012, 408330013, 408330014, 408330015, 408330016, 408330017, 408330018,

408330019, 408330020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/01/08 15:53	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/01/08 15:53	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/01/08 15:53	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/01/08 15:53	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/01/08 15:53	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/01/08 15:53	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/01/08 15:53	
Decachlorobiphenyl (S)	%	94	47-145	10/01/08 15:53	
Tetrachloro-m-xylene (S)	%	93	40-136	10/01/08 15:53	

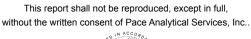
LABORATORY CONTROL SAMPLE:	80751					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	261	104	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			98	47-145	
Tetrachloro-m-xylene (S)	%			94	40-136	

		408330003	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
PCB-1016 (Aroclor 1016)	ug/kg				<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<380			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<380			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<380			<380	<380					56	
PCB-1248 (Aroclor 1248)	ug/kg	3000			2960	3060				3	56	
PCB-1254 (Aroclor 1254)	ug/kg	2050	1000	1000	2900	2940	86	89	43-130	1	56	
PCB-1260 (Aroclor 1260)	ug/kg	<380			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

QC Batch: OEXT/2785 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 408330001, 408330002, 408330003, 408330004, 408330005, 408330006, 408330007, 408330008, 408330009,

408330010, 408330011, 408330012, 408330013, 408330014, 408330015, 408330016, 408330017, 408330018,

408330019, 408330020

METHOD BLANK: 81218 Matrix: Tissue

Associated Lab Samples: 408330001, 408330002, 408330003, 408330004, 408330005, 408330006, 408330007, 408330008, 408330009,

408330010, 408330011, 408330012, 408330013, 408330014, 408330015, 408330016, 408330017, 408330018,

408330019, 408330020

Parameter Units Blank Reporting Result Limit Analyzed Qualifiers

% <0.10 09/29/08 07:29

SAMPLE DUPLICATE: 81219

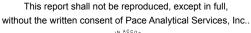
Date: 10/15/2008 04:14 PM

Lipid

			408330003	Dup		Max	
Paran	neter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid		<u></u>	1.1	14	18	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/15/2008 04:14 PM

Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408330

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408330001	BL-UR2-AWS2-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330002	BL-UR2-SB6, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330003	BL-UR2-AWS3-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330004	BL-UR2-AC1-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330005	BL-UR2-AC2-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330006	BL-UR2-AC3-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330007	BL-UR2-SB7-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330008	BL-UR2-JWS1-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330009	BL-UR2-JWS2-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330010	BL-UR2-AWS4-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330011	BL-UR2-AC4-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330012	BL-UR2-SB8-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330013	BL-UR2-JWS3-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330014	BL-UR2-JWS4-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330015	BL-UR2-JWS5-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330016	BL-UR2-JWS6-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330017	BL-UR2-JWS7-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330018	BL-UR2-JWS8-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330019	BL-UR2-RB3-G, 8/21/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330020	BL-UR2-RB4-G, 8/22/08	EPA 3540	OEXT/2776	EPA 8082	GCSV/1946
408330001	BL-UR2-AWS2-G, 8/21/08	Pace Lipid	OEXT/2785		
408330002	BL-UR2-SB6, 8/21/08	Pace Lipid	OEXT/2785		
408330003	BL-UR2-AWS3-G, 8/21/08	Pace Lipid	OEXT/2785		
408330004	BL-UR2-AC1-G, 8/21/08	Pace Lipid	OEXT/2785		
408330005	BL-UR2-AC2-G, 8/21/08	Pace Lipid	OEXT/2785		
408330006	BL-UR2-AC3-G, 8/21/08	Pace Lipid	OEXT/2785		
408330007	BL-UR2-SB7-G, 8/21/08	Pace Lipid	OEXT/2785		
408330008	BL-UR2-JWS1-G, 8/21/08	Pace Lipid	OEXT/2785		
408330009	BL-UR2-JWS2-G, 8/21/08	Pace Lipid	OEXT/2785		
408330010	BL-UR2-AWS4-G, 8/21/08	Pace Lipid	OEXT/2785		
408330011	BL-UR2-AC4-G, 8/21/08	Pace Lipid	OEXT/2785		
408330012	BL-UR2-SB8-G, 8/21/08	Pace Lipid	OEXT/2785		
408330013	BL-UR2-JWS3-G, 8/21/08	Pace Lipid	OEXT/2785		
408330014	BL-UR2-JWS4-G, 8/21/08	Pace Lipid	OEXT/2785		
408330015	BL-UR2-JWS5-G, 8/21/08	Pace Lipid	OEXT/2785		
408330016	BL-UR2-JWS6-G, 8/21/08	Pace Lipid	OEXT/2785		
408330017	BL-UR2-JWS7-G, 8/21/08	Pace Lipid	OEXT/2785		
408330018	BL-UR2-JWS8-G, 8/21/08	Pace Lipid	OEXT/2785		
408330019	BL-UR2-RB3-G, 8/21/08	Pace Lipid	OEXT/2785		
408330020	BL-UR2-RB4-G, 8/22/08	Pace Lipid	OEXT/2785		

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October 15, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on August 26, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

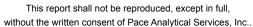
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408211001	BL-UR1-JWS3-G, 8/19/08	Tissue	08/19/08 00:00	08/26/08 15:30
408211002	BL-UR1-RB2-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211003	BL-UR1-RB3-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211004	BL-UR1-RB4-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211005	BL-UR1-RB5-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211006	BL-UR1-RB6-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211007	BL-UR1-JWS5-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211008	BL-UR1-JWS6-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211009	BL-UR1-JWS7-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211010	BL-UR1-JWS8-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211011	BL-UR1-RB7-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211012	BL-UR1-RB8-G, 8/20/08	Tissue	08/20/08 00:00	08/26/08 15:30
408211013	BL-UR2-SB1-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211014	BL-UR2-SB2-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211015	BL-UR2-SB3-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211016	BL-UR2-RB1-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211017	BL-UR2-SB4-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211018	BL-UR2-RB2-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211019	BL-UR2-SB5-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30
408211020	BL-UR2-AWS1-G, 8/21/08	Tissue	08/21/08 00:00	08/26/08 15:30





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Lab ID	Sample ID	Method	Analysta	Analytes Reported
	<u> </u>		Analysts	
408211001	BL-UR1-JWS3-G, 8/19/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211002	BL-UR1-RB2-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211003	BL-UR1-RB3-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211004	BL-UR1-RB4-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211005	BL-UR1-RB5-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211006	BL-UR1-RB6-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211007	BL-UR1-JWS5-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211008	BL-UR1-JWS6-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211009	BL-UR1-JWS7-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211010	BL-UR1-JWS8-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211011	BL-UR1-RB7-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211012	BL-UR1-RB8-G, 8/20/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211013	BL-UR2-SB1-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211014	BL-UR2-SB2-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211015	BL-UR2-SB3-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211016	BL-UR2-RB1-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211017	BL-UR2-SB4-G, 8/21/08	EPA 8082	BDS	10
-	,	Pace Lipid	NJB	1
408211018	BL-UR2-RB2-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	NJB	1
408211019	BL-UR2-SB5-G, 8/21/08	EPA 8082	BDS	10
	,	2.7.0002		. •

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Lab ID	Sample ID	Method	Analysts	•
		— ————————————————————————————————————	NJB	1
408211020	BL-UR2-AWS1-G, 8/21/08	EPA 8082	BDS	10
		Pace Lipid	NJB	Analytes Reported 1 10 1





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2742

- S4: Surrogate recovery not evaluated against control limits due to sample dilution.
 - BL-UR1-JWS5-G, 8/20/08 (Lab ID: 408211007)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-JWS6-G, 8/20/08 (Lab ID: 408211008)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-RB2-G, 8/20/08 (Lab ID: 408211002)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-RB3-G, 8/20/08 (Lab ID: 408211003)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-RB4-G, 8/20/08 (Lab ID: 408211004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-RB5-G, 8/20/08 (Lab ID: 408211005)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR1-RB8-G, 8/20/08 (Lab ID: 408211012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AWS1-G, 8/21/08 (Lab ID: 408211020)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-RB2-G, 8/21/08 (Lab ID: 408211018)

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PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

QC Batch: OEXT/2742

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-UR2-SB1-G, 8/21/08 (Lab ID: 408211013)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-SB2-G, 8/21/08 (Lab ID: 408211014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-SB3-G, 8/21/08 (Lab ID: 408211015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-SB4-G, 8/21/08 (Lab ID: 408211017)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 79783)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 79784)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2742

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 408211019

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 79783)
 - PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 79784)
 - PCB-1254 (Aroclor 1254)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS







PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

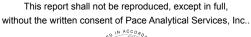
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





REPORT OF LABORATORY ANALYSIS



Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-JWS3-G, 8/19/08 Lab ID: 408211001 Collected: 08/19/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<390 ≀	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<390 ≀	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<390 ≀	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<390 ≀	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	53469-21-9	
PCB-1248 (Aroclor 1248)	2810 ι	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	12672-29-6	
PCB-1254 (Aroclor 1254)	3270 ι	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	11097-69-1	
PCB-1260 (Aroclor 1260)	<390 ≀	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	11096-82-5	
PCB, Total	6080 ເ	ıg/kg	1030	390	10	09/23/08 15:21	09/30/08 16:33	1336-36-3	
Tetrachloro-m-xylene (S)	92 9	%	40-136		10	09/23/08 15:21	09/30/08 16:33	877-09-8	
Decachlorobiphenyl (S)	102 %	%	47-145		10	09/23/08 15:21	09/30/08 16:33	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.46	%		0.10	1		09/25/08 09:40		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB2-G, 8/20/08 Lab ID: 408211002 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	53469-21-9	
PCB-1248 (Aroclor 1248)	3090	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	12672-29-6	
PCB-1254 (Aroclor 1254)	2720 t	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	11096-82-5	
PCB, Total	5820 ι	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 17:01	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/23/08 15:21	09/30/08 17:01	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/23/08 15:21	09/30/08 17:01	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	0.59	%		0.10	1		09/25/08 09:41		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB3-G, 8/20/08 Lab ID: 408211003 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<1290 t	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<1290 ≀	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<1290 ≀	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<1290 ≀	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	53469-21-9	
PCB-1248 (Aroclor 1248)	9060 ເ	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	12672-29-6	
PCB-1254 (Aroclor 1254)	7770 ເ	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	11097-69-1	
PCB-1260 (Aroclor 1260)	<1290 ≀	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	11096-82-5	
PCB, Total	16800 ເ	ıg/kg	3400	1290	50	09/23/08 15:21	09/30/08 17:29	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/23/08 15:21	09/30/08 17:29	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/23/08 15:21	09/30/08 17:29	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	0.77	%		0.10	1		09/25/08 09:41		

Date: 10/15/2008 04:11 PM

REPORT OF LABORATORY ANALYSIS





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB4-G, 8/20/08 Lab ID: 408211004 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	53469-21-9	
PCB-1248 (Aroclor 1248)	6430 t	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	12672-29-6	
PCB-1254 (Aroclor 1254)	3920 ι	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	11096-82-5	
PCB, Total	10400 ւ	ıg/kg	2500	950	50	09/23/08 15:21	09/30/08 17:57	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/23/08 15:21	09/30/08 17:57	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/23/08 15:21	09/30/08 17:57	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.0	%		0.10	1		09/25/08 09:41		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB5-G, 8/20/08 Lab ID: 408211005 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual	
8082 GCS PCBs, Tissue	Analytical	Analytical Method: EPA 8082 Preparation Method: EPA 3540								
PCB-1016 (Aroclor 1016)	<631 ≀	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	12674-11-2		
PCB-1221 (Aroclor 1221)	<631 ∪	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	11104-28-2		
PCB-1232 (Aroclor 1232)	<631 ∪	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	11141-16-5		
PCB-1242 (Aroclor 1242)	<631 ∪	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	53469-21-9		
PCB-1248 (Aroclor 1248)	4840 և	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	12672-29-6		
PCB-1254 (Aroclor 1254)	3070 ι	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	11097-69-1		
PCB-1260 (Aroclor 1260)	<631 ∪	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	11096-82-5		
PCB, Total	7910 ւ	ıg/kg	1660	631	30	09/23/08 15:21	09/30/08 18:25	1336-36-3		
Tetrachloro-m-xylene (S)	0 %	6	40-136		30	09/23/08 15:21	09/30/08 18:25	877-09-8	S4	
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/23/08 15:21	09/30/08 18:25	2051-24-3	S4	
Lipid	Analytical	Method: Pac	e Lipid							
Lipid	0.58 %	%		0.10	1		09/25/08 09:41			

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB6-G, 8/20/08 Lab ID: 408211006 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	53469-21-9	
PCB-1248 (Aroclor 1248)	566 (ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	12672-29-6	
PCB-1254 (Aroclor 1254)	659 ւ	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	11096-82-5	
PCB, Total	1220 ւ	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 18:53	1336-36-3	
Tetrachloro-m-xylene (S)	87 9	%	40-136		5	09/23/08 15:21	09/30/08 18:53	877-09-8	
Decachlorobiphenyl (S)	94 9	%	47-145		5	09/23/08 15:21	09/30/08 18:53	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.32	%		0.10	1		09/25/08 09:41		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-JWS5-G, 8/20/08 Lab ID: 408211007 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	53469-21-9	
PCB-1248 (Aroclor 1248)	2440 ι	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	12672-29-6	
PCB-1254 (Aroclor 1254)	5320 ι	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	11096-82-5	
PCB, Total	7760 ι	ıg/kg	1500	570	30	09/23/08 15:21	09/30/08 19:21	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	09/23/08 15:21	09/30/08 19:21	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		30	09/23/08 15:21	09/30/08 19:21	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.33	%		0.10	1		09/25/08 09:42		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-JWS6-G, 8/20/08 Lab ID: 408211008 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<445 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<445 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<445 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	11141-16-5	
PCB-1242 (Aroclor 1242)	<445 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	53469-21-9	
PCB-1248 (Aroclor 1248)	3080 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	12672-29-6	
PCB-1254 (Aroclor 1254)	3420 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	11097-69-1	
PCB-1260 (Aroclor 1260)	<445 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	11096-82-5	
PCB, Total	6510 U	ıg/kg	1170	445	20	09/23/08 15:21	09/30/08 19:49	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/23/08 15:21	09/30/08 19:49	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/23/08 15:21	09/30/08 19:49	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.64 %	6		0.10	1		09/25/08 09:42		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-JWS7-G, 8/20/08 Lab ID: 408211009 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<107 t	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<107 ∪	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<107 ∪	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<107 ∪	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	53469-21-9	
PCB-1248 (Aroclor 1248)	816 u	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	12672-29-6	
PCB-1254 (Aroclor 1254)	1280 ւ	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	11097-69-1	
PCB-1260 (Aroclor 1260)	186J ւ	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	11096-82-5	
PCB, Total	2280 u	ıg/kg	281	107	5	09/23/08 15:21	09/30/08 21:13	1336-36-3	
Tetrachloro-m-xylene (S)	76 %	6	40-136		5	09/23/08 15:21	09/30/08 21:13	877-09-8	
Decachlorobiphenyl (S)	81 %	6	47-145		5	09/23/08 15:21	09/30/08 21:13	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.28 %	6		0.10	1		09/25/08 09:42		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-JWS8-G, 8/20/08 Lab ID: 408211010 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<134 U	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<134 U	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<134 U	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<134 U	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	53469-21-9	
PCB-1248 (Aroclor 1248)	900 u	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	12672-29-6	
PCB-1254 (Aroclor 1254)	1090 U	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<134 U	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	11096-82-5	
PCB, Total	1990 u	ıg/kg	353	134	5	09/23/08 15:21	09/30/08 21:41	1336-36-3	
Tetrachloro-m-xylene (S)	95 %	6	40-136		5	09/23/08 15:21	09/30/08 21:41	877-09-8	
Decachlorobiphenyl (S)	100 %	6	47-145		5	09/23/08 15:21	09/30/08 21:41	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.28 %	6		0.10	1		09/25/08 09:42		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB7-G, 8/20/08 Lab ID: 408211011 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 (ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	53469-21-9	
PCB-1248 (Aroclor 1248)	969 ເ	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	12672-29-6	
PCB-1254 (Aroclor 1254)	598 ւ	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	11096-82-5	
PCB, Total	1570 ւ	ıg/kg	250	95.0	5	09/23/08 15:21	09/30/08 22:09	1336-36-3	
Tetrachloro-m-xylene (S)	97 9	%	40-136		5	09/23/08 15:21	09/30/08 22:09	877-09-8	
Decachlorobiphenyl (S)	105 9	%	47-145		5	09/23/08 15:21	09/30/08 22:09	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.48	%		0.10	1		09/25/08 09:43		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR1-RB8-G, 8/20/08 Lab ID: 408211012 Collected: 08/20/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<431 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<431 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<431 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<431 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	53469-21-9	
PCB-1248 (Aroclor 1248)	3120 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	12672-29-6	
PCB-1254 (Aroclor 1254)	2180 t	ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<431 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	11096-82-5	
PCB, Total	5300 (ug/kg	1140	431	20	09/23/08 15:21	09/30/08 22:36	1336-36-3	
Tetrachloro-m-xylene (S)	0 (%	40-136		20	09/23/08 15:21	09/30/08 22:36	877-09-8	S4
Decachlorobiphenyl (S)	0 (%	47-145		20	09/23/08 15:21	09/30/08 22:36	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	0.62	%		0.10	1		09/25/08 09:43		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-SB1-G, 8/21/08 Lab ID: 408211013 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	53469-21-9	
PCB-1248 (Aroclor 1248)	13500 ւ	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	12672-29-6	
PCB-1254 (Aroclor 1254)	15400 ւ	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	11096-82-5	
PCB, Total	28900 t	ıg/kg	5000	1900	100	09/23/08 15:21	09/30/08 23:04	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/23/08 15:21	09/30/08 23:04	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/23/08 15:21	09/30/08 23:04	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	1.8	%		0.10	1		09/25/08 09:43		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-SB2-G, 8/21/08 Lab ID: 408211014 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 t	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	53469-21-9	
PCB-1248 (Aroclor 1248)	2990 (ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	12672-29-6	
PCB-1254 (Aroclor 1254)	2350 (ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	11096-82-5	
PCB, Total	5340 (ıg/kg	1000	380	20	09/23/08 15:21	09/30/08 23:32	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/23/08 15:21	09/30/08 23:32	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/23/08 15:21	09/30/08 23:32	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	0.78	%		0.10	1		09/25/08 09:43		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-SB3-G, 8/21/08 Lab ID: 408211015 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<950 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	53469-21-9	
PCB-1248 (Aroclor 1248)	7560 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	12672-29-6	
PCB-1254 (Aroclor 1254)	7300 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	11096-82-5	
PCB, Total	14900 ug	g/kg	2500	950	50	09/23/08 15:21	10/01/08 00:00	1336-36-3	
Tetrachloro-m-xylene (S)	0 %)	40-136		50	09/23/08 15:21	10/01/08 00:00	877-09-8	S4
Decachlorobiphenyl (S)	0 %)	47-145		50	09/23/08 15:21	10/01/08 00:00	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.2 %)		0.10	1		09/25/08 09:43		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-RB1-G, 8/21/08 Lab ID: 408211016 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ∖	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ∖	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	53469-21-9	
PCB-1248 (Aroclor 1248)	651 ເ	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	12672-29-6	
PCB-1254 (Aroclor 1254)	393 ι	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ≀	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	11096-82-5	
PCB, Total	1040 t	ıg/kg	200	76.0	4	09/23/08 15:21	10/01/08 00:28	1336-36-3	
Tetrachloro-m-xylene (S)	91 9	6	40-136		4	09/23/08 15:21	10/01/08 00:28	877-09-8	
Decachlorobiphenyl (S)	98 9	%	47-145		4	09/23/08 15:21	10/01/08 00:28	2051-24-3	
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	0.40	%		0.10	1		09/25/08 09:44		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-SB4-G, 8/21/08 Lab ID: 408211017 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Meth	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<1900 (ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 t	ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 t	ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	53469-21-9	
PCB-1248 (Aroclor 1248)	15900 ւ	ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	12672-29-6	
PCB-1254 (Aroclor 1254)	17500 ເ	ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	11096-82-5	
PCB, Total	33500 (ug/kg	5000	1900	100	09/23/08 15:21	10/01/08 00:56	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/23/08 15:21	10/01/08 00:56	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/23/08 15:21	10/01/08 00:56	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	1.7	%		0.10	1		09/25/08 09:44		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-RB2-G, 8/21/08 Lab ID: 408211018 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 t	ug/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 t	ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 t	ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	53469-21-9	
PCB-1248 (Aroclor 1248)	2260 t	ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	12672-29-6	
PCB-1254 (Aroclor 1254)	1980 ւ	ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 t	ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	11096-82-5	
PCB, Total	4240 ι	ıg/kg	1000	380	20	09/23/08 15:21	10/01/08 01:24	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/23/08 15:21	10/01/08 01:24	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/23/08 15:21	10/01/08 01:24	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.67	%		0.10	1		09/25/08 09:44		

Date: 10/15/2008 04:11 PM





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-SB5-G, 8/21/08 Lab ID: 408211019 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	53469-21-9	
PCB-1248 (Aroclor 1248)	1770 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	12672-29-6	
PCB-1254 (Aroclor 1254)	1350 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	11097-69-1	M0
PCB-1260 (Aroclor 1260)	<190 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	11096-82-5	
PCB, Total	3120 u	g/kg	500	190	10	09/23/08 15:21	10/01/08 01:52	1336-36-3	
Tetrachloro-m-xylene (S)	75 %	, 0	40-136		10	09/23/08 15:21	10/01/08 01:52	877-09-8	
Decachlorobiphenyl (S)	89 %	0	47-145		10	09/23/08 15:21	10/01/08 01:52	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.3 %	0		0.10	1		09/25/08 09:44		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Sample: BL-UR2-AWS1-G, 8/21/08 Lab ID: 408211020 Collected: 08/21/08 00:00 Received: 08/26/08 15:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	53469-21-9	
PCB-1248 (Aroclor 1248)	6450 t	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	12672-29-6	
PCB-1254 (Aroclor 1254)	4400 ւ	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	11096-82-5	
PCB, Total	10800 ເ	ıg/kg	1500	570	30	09/23/08 15:21	10/01/08 02:20	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/23/08 15:21	10/01/08 02:20	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/23/08 15:21	10/01/08 02:20	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.96	%		0.10	1		09/25/08 09:45		

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 408211

QC Batch: OEXT/2742 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

408211001, 408211002, 408211003, 408211004, 408211005, 408211006, 408211007, 408211008, 408211009, Associated Lab Samples:

408211010, 408211011, 408211012, 408211013, 408211014, 408211015, 408211016, 408211017, 408211018,

408211019, 408211020

METHOD BLANK: 79771 Matrix: Tissue

408211001, 408211002, 408211003, 408211004, 408211005, 408211006, 408211007, 408211008, 408211009, 408211010, 408211011, 408211012, 408211013, 408211014, 408211015, 408211016, 408211017, 408211018,Associated Lab Samples:

408211019, 408211020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	09/30/08 14:41	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	09/30/08 14:41	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	09/30/08 14:41	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	09/30/08 14:41	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	09/30/08 14:41	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	09/30/08 14:41	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	09/30/08 14:41	
Decachlorobiphenyl (S)	%	95	47-145	09/30/08 14:41	
Tetrachloro-m-xylene (S)	%	97	40-136	09/30/08 14:41	

LABORATORY CONTROL SAME	PLE: 79772					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	221	89	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			94	47-145	
Tetrachloro-m-xylene (S)	%			84	40-136	

Devenuetes		408211019	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec	DDD	Max	0
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<190			<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<190			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<190			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<190			<380	<380					56	
PCB-1248 (Aroclor 1248)	ug/kg	1770			3050	2710				12	56	
PCB-1254 (Aroclor 1254)	ug/kg	1350	1000	1000	2990	2720	164	137	43-130	9	56	M0
PCB-1260 (Aroclor 1260)	ug/kg	<190			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 408211

QC Batch: OEXT/2754 Analysis Method: Pace Lipid QC Batch Method: Pace Lipid Analysis Description: **LIPID**

408211001, 408211002, 408211003, 408211004, 408211005, 408211006, 408211007, 408211008, 408211009, Associated Lab Samples:

408211010, 408211011, 408211012, 408211013, 408211014, 408211015, 408211016, 408211017, 408211018,

408211019, 408211020

METHOD BLANK: 80010 Matrix: Tissue

Associated Lab Samples:

408211001, 408211002, 408211003, 408211004, 408211005, 408211006, 408211007, 408211008, 408211009, 408211010, 408211011, 408211012, 408211013, 408211014, 408211015, 408211016, 408211017, 408211018,

408211019, 408211020

Blank Reporting Analyzed Parameter Units Result Limit Qualifiers % 09/25/08 09:40 < 0.10

SAMPLE DUPLICATE: 80011

Date: 10/15/2008 04:11 PM

Lipid

		408211019	Dup		Max	
Parame	ter Unit	s Result	Result	RPD	RPD	Qualifiers
Lipid		1.3	3 1.	.3	4 20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/15/2008 04:11 PM

M0 Matrix spike recovery was outside laboratory control limits.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408211

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408211001	BL-UR1-JWS3-G, 8/19/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211002	BL-UR1-RB2-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211003	BL-UR1-RB3-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211004	BL-UR1-RB4-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211005	BL-UR1-RB5-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211006	BL-UR1-RB6-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211007	BL-UR1-JWS5-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211008	BL-UR1-JWS6-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211009	BL-UR1-JWS7-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211010	BL-UR1-JWS8-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211011	BL-UR1-RB7-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211012	BL-UR1-RB8-G, 8/20/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211013	BL-UR2-SB1-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211014	BL-UR2-SB2-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211015	BL-UR2-SB3-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211016	BL-UR2-RB1-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211017	BL-UR2-SB4-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211018	BL-UR2-RB2-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211019	BL-UR2-SB5-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211020	BL-UR2-AWS1-G, 8/21/08	EPA 3540	OEXT/2742	EPA 8082	GCSV/1924
408211001	BL-UR1-JWS3-G, 8/19/08	Pace Lipid	OEXT/2754		
408211002	BL-UR1-RB2-G, 8/20/08	Pace Lipid	OEXT/2754		
408211003	BL-UR1-RB3-G, 8/20/08	Pace Lipid	OEXT/2754		
408211004	BL-UR1-RB4-G, 8/20/08	Pace Lipid	OEXT/2754		
408211005	BL-UR1-RB5-G, 8/20/08	Pace Lipid	OEXT/2754		
408211006	BL-UR1-RB6-G, 8/20/08	Pace Lipid	OEXT/2754		
408211007	BL-UR1-JWS5-G, 8/20/08	Pace Lipid	OEXT/2754		
408211008	BL-UR1-JWS6-G, 8/20/08	Pace Lipid	OEXT/2754		
408211009	BL-UR1-JWS7-G, 8/20/08	Pace Lipid	OEXT/2754		
408211010	BL-UR1-JWS8-G, 8/20/08	Pace Lipid	OEXT/2754		
408211011	BL-UR1-RB7-G, 8/20/08	Pace Lipid	OEXT/2754		
408211012	BL-UR1-RB8-G, 8/20/08	Pace Lipid	OEXT/2754		
408211013	BL-UR2-SB1-G, 8/21/08	Pace Lipid	OEXT/2754		
408211014	BL-UR2-SB2-G, 8/21/08	Pace Lipid	OEXT/2754		
408211015	BL-UR2-SB3-G, 8/21/08	Pace Lipid	OEXT/2754		
408211016	BL-UR2-RB1-G, 8/21/08	Pace Lipid	OEXT/2754		
408211017	BL-UR2-SB4-G, 8/21/08	Pace Lipid	OEXT/2754		
408211018	BL-UR2-RB2-G, 8/21/08	Pace Lipid	OEXT/2754		
408211019	BL-UR2-SB5-G, 8/21/08	Pace Lipid	OEXT/2754		
408211020	BL-UR2-AWS1-G, 8/21/08	Pace Lipid	OEXT/2754		

Date: 10/15/2008 04:11 PM

REPORT OF LABORATORY ANALYSIS





October 17, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Lab ID	Sample ID	Matrix	Date Collected	Date Received
409156001	BL-MR2-LD5-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156002	BL-MR2-LD6-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156003	BL-MR2-LD7-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156004	BL-MR2-LD8-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156005	BL-MR1-LD1-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156006	BL-MR1-LD2-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156007	BL-MR1-LD3-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156008	BL-MR1-LD4-G, 9/10/08	Tissue	09/10/08 00:00	09/18/08 13:05
409156009	BL-MR1-LD5-G, 9/11/08	Tissue	09/11/08 00:00	09/18/08 13:05
409156010	BL-MR1-LD6-G, 9/11/08	Tissue	09/11/08 00:00	09/18/08 13:05
409156011	BL-UR1-LD1-G, 9/12/08	Tissue	09/12/08 00:00	09/18/08 13:05
409156012	BL-UR1-LD2-G, 9/12/08	Tissue	09/12/08 00:00	09/18/08 13:05
409156013	BL-UR1-LD3-G, 9/12/08	Tissue	09/12/08 00:00	09/18/08 13:05
409156014	BL-UR1-LD4-G, 9/12/08	Tissue	09/12/08 00:00	09/18/08 13:05
409156015	BL-MR2-CC2-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409156016	BL-MR2-CC3-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409156017	BL-MR2-CC4-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409156018	BL-MR2-RB3-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409156019	BL-MR2-RB4-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05
409156020	BL-MR2-RB5-G, 9/15/08	Tissue	09/15/08 00:00	09/18/08 13:05





SAMPLE ANALYTE COUNT

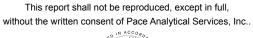
Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Lab ID	Sample ID	Method	Analysts	Analytes Reported
409156001	BL-MR2-LD5-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156002	BL-MR2-LD6-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156003	BL-MR2-LD7-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156004	BL-MR2-LD8-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156005	BL-MR1-LD1-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156006	BL-MR1-LD2-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156007	BL-MR1-LD3-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156008	BL-MR1-LD4-G, 9/10/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156009	BL-MR1-LD5-G, 9/11/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156010	BL-MR1-LD6-G, 9/11/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156011	BL-UR1-LD1-G, 9/12/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156012	BL-UR1-LD2-G, 9/12/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156013	BL-UR1-LD3-G, 9/12/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156014	BL-UR1-LD4-G, 9/12/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156015	BL-MR2-CC2-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156016	BL-MR2-CC3-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156017	BL-MR2-CC4-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156018	BL-MR2-RB3-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
409156019	BL-MR2-RB4-G, 9/15/08	EPA 8082	CAH	10

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	DAL	1
409156020	BL-MR2-RB5-G, 9/15/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1





PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2826

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-MR1-LD1-G, 9/10/08 (Lab ID: 409156005)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR2-CC2-G, 9/15/08 (Lab ID: 409156015)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR2-CC3-G, 9/15/08 (Lab ID: 409156016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR1-LD1-G, 9/12/08 (Lab ID: 409156011)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 83327)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 83328)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2826

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 409156015

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

• MS (Lab ID: 83327)

• PCB-1254 (Aroclor 1254)

• MSD (Lab ID: 83328)

• PCB-1254 (Aroclor 1254)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/2826

1j: Surrogate recovery outside laboratory control limits. Surrogate recovery could not be confirmed by re-extraction and re-analysis due to insufficient sample volume.

- BL-MR1-LD4-G, 9/10/08 (Lab ID: 409156008)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

P2: Re-extraction or re-analysis could not be performed due to insufficient sample amount.

- BL-MR1-LD4-G, 9/10/08 (Lab ID: 409156008)
 - PCB-1221 (Aroclor 1221)







PROJECT NARRATIVE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-LD5-G, 9/10/08 Lab ID: 409156001 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<422 t	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<422 ι	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<422 ι	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<422 t	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	53469-21-9	
PCB-1248 (Aroclor 1248)	3040 ι	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	12672-29-6	
PCB-1254 (Aroclor 1254)	1820 ւ	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	11097-69-1	
PCB-1260 (Aroclor 1260)	<422 ι	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	11096-82-5	
PCB, Total	4860 ւ	ıg/kg	1110	422	1	10/01/08 13:35	10/13/08 15:40	1336-36-3	
Tetrachloro-m-xylene (S)	94 %	%	40-136		1	10/01/08 13:35	10/13/08 15:40	877-09-8	
Decachlorobiphenyl (S)	99 %	%	47-145		1	10/01/08 13:35	10/13/08 15:40	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	2.3	%		0.10	1		10/03/08 10:02		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-LD6-G, 9/10/08 Lab ID: 409156002 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<330 (ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<330 (ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<330 t	ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<330 t	ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	53469-21-9	
PCB-1248 (Aroclor 1248)	4700 (ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	12672-29-6	
PCB-1254 (Aroclor 1254)	2480 (ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<330 t	ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	11096-82-5	
PCB, Total	7170 t	ug/kg	870	330	2	10/01/08 13:35	10/13/08 16:06	1336-36-3	
Tetrachloro-m-xylene (S)	91 9	%	40-136		2	10/01/08 13:35	10/13/08 16:06	877-09-8	
Decachlorobiphenyl (S)	100 9	%	47-145		2	10/01/08 13:35	10/13/08 16:06	2051-24-3	
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	5.1	%		0.10	1		10/03/08 10:03		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-LD7-G, 9/10/08 Lab ID: 409156003 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<603 ≀	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	12674-11-2	
PCB-1221 (Aroclor 1221)	<603 ∪	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	11104-28-2	
PCB-1232 (Aroclor 1232)	<603 ∪	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	11141-16-5	
PCB-1242 (Aroclor 1242)	<603 ∪	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	53469-21-9	
PCB-1248 (Aroclor 1248)	5130 և	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	12672-29-6	
PCB-1254 (Aroclor 1254)	4730 υ	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	11097-69-1	
PCB-1260 (Aroclor 1260)	<603 ∪	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	11096-82-5	
PCB, Total	9860 ເ	ıg/kg	1590	603	10	10/01/08 13:36	10/13/08 16:32	1336-36-3	
Tetrachloro-m-xylene (S)	96 %	%	40-136		10	10/01/08 13:36	10/13/08 16:32	877-09-8	
Decachlorobiphenyl (S)	108 %	%	47-145		10	10/01/08 13:36	10/13/08 16:32	2051-24-3	
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	4.1 %	%		0.10	1		10/03/08 10:03		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-LD8-G, 9/10/08 Lab ID: 409156004 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<328 ≀	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<328 ≀	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<328 ≀	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	11141-16-5	
PCB-1242 (Aroclor 1242)	<328 ≀	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	53469-21-9	
PCB-1248 (Aroclor 1248)	4910 ւ	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	12672-29-6	
PCB-1254 (Aroclor 1254)	3560 ს	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	11097-69-1	
PCB-1260 (Aroclor 1260)	<328 ≀	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	11096-82-5	
PCB, Total	8470 ι	ıg/kg	862	328	5	10/01/08 13:36	10/13/08 16:57	1336-36-3	
Tetrachloro-m-xylene (S)	90 %	%	40-136		5	10/01/08 13:36	10/13/08 16:57	877-09-8	
Decachlorobiphenyl (S)	101 %	%	47-145		5	10/01/08 13:36	10/13/08 16:57	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	5.7 %	%		0.10	1		10/03/08 10:03		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR1-LD1-G, 9/10/08 Lab ID: 409156005 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<974 ≀	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<974 ∪	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<974 ∪	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<974 ∪	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	53469-21-9	
PCB-1248 (Aroclor 1248)	9840 υ	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	12672-29-6	
PCB-1254 (Aroclor 1254)	7950 և	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<974 ∪	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	11096-82-5	
PCB, Total	17800 ւ	ıg/kg	2560	974	20	10/01/08 13:36	10/13/08 17:23	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	10/01/08 13:36	10/13/08 17:23	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	10/01/08 13:36	10/13/08 17:23	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	5.8 %	6		0.10	1		10/03/08 10:03		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR1-LD2-G, 9/10/08 Lab ID: 409156006 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<306 (ug/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<306 ≀	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<306 ≀	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	11141-16-5	
PCB-1242 (Aroclor 1242)	<306 ≀	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	53469-21-9	
PCB-1248 (Aroclor 1248)	4230 ι	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	12672-29-6	
PCB-1254 (Aroclor 1254)	3620 t	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	11097-69-1	
PCB-1260 (Aroclor 1260)	506J ւ	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	11096-82-5	
PCB, Total	8350 ເ	ıg/kg	806	306	5	10/01/08 13:36	10/13/08 17:49	1336-36-3	
Tetrachloro-m-xylene (S)	101 9	%	40-136		5	10/01/08 13:36	10/13/08 17:49	877-09-8	
Decachlorobiphenyl (S)	110 9	%	47-145		5	10/01/08 13:36	10/13/08 17:49	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	2.1	%		0.10	1		10/03/08 10:03		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR1-LD3-G, 9/10/08 Lab ID: 409156007 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<543 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<543 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<543 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<543 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	53469-21-9	
PCB-1248 (Aroclor 1248)	6030 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	12672-29-6	
PCB-1254 (Aroclor 1254)	2890 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	11097-69-1	
PCB-1260 (Aroclor 1260)	<543 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	11096-82-5	
PCB, Total	8920 u	ıg/kg	1430	543	2	10/01/08 13:36	10/13/08 18:15	1336-36-3	
Tetrachloro-m-xylene (S)	93 %	6	40-136		2	10/01/08 13:36	10/13/08 18:15	877-09-8	
Decachlorobiphenyl (S)	100 %	6	47-145		2	10/01/08 13:36	10/13/08 18:15	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	3.6 %	6		0.10	1		10/03/08 10:04		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR1-LD4-G, 9/10/08 Lab ID: 409156008 Collected: 09/10/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<400 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<400 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	11104-28-2	P2
PCB-1232 (Aroclor 1232)	<400 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<400 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	53469-21-9	
PCB-1248 (Aroclor 1248)	4470 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	12672-29-6	
PCB-1254 (Aroclor 1254)	2610 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<400 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	11096-82-5	
PCB, Total	7080 u	ıg/kg	1050	400	2	10/01/08 13:36	10/13/08 18:41	1336-36-3	
Tetrachloro-m-xylene (S)	.4 %	6	40-136		2	10/01/08 13:36	10/13/08 18:41	877-09-8	1j
Decachlorobiphenyl (S)	.1 %	6	47-145		2	10/01/08 13:36	10/13/08 18:41	2051-24-3	1j
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.8 %	6		0.10	1		10/03/08 10:04		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR1-LD5-G, 9/11/08 Lab ID: 409156009 Collected: 09/11/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results L	Jnits LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical Met	hod: EPA 8082 Prepa	ration Meth	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	53469-21-9	
PCB-1248 (Aroclor 1248)	4650 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	12672-29-6	
PCB-1254 (Aroclor 1254)	2460 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	11096-82-5	
PCB, Total	7100 ug/kg	1000	380	1	10/01/08 13:36	10/13/08 19:58	1336-36-3	
Tetrachloro-m-xylene (S)	98 %	40-136		1	10/01/08 13:36	10/13/08 19:58	877-09-8	
Decachlorobiphenyl (S)	102 %	47-145		1	10/01/08 13:36	10/13/08 19:58	2051-24-3	
Lipid	Analytical Met	hod: Pace Lipid						
Lipid	2.7 %		0.10	1		10/03/08 10:04		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR1-LD6-G, 9/11/08 Lab ID: 409156010 Collected: 09/11/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results Un	its LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical Metho	d: EPA 8082 Prepa	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<345 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<345 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<345 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<345 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	53469-21-9	
PCB-1248 (Aroclor 1248)	4800 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	12672-29-6	
PCB-1254 (Aroclor 1254)	2760 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	11097-69-1	
PCB-1260 (Aroclor 1260)	<345 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	11096-82-5	
PCB, Total	7560 ug/kg	909	345	1	10/01/08 13:36	10/13/08 20:24	1336-36-3	
Tetrachloro-m-xylene (S)	95 %	40-136		1	10/01/08 13:36	10/13/08 20:24	877-09-8	
Decachlorobiphenyl (S)	100 %	47-145		1	10/01/08 13:36	10/13/08 20:24	2051-24-3	
Lipid	Analytical Metho	d: Pace Lipid						
Lipid	3.1 %		0.10	1		10/03/08 10:04		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-UR1-LD1-G, 9/12/08 Lab ID: 409156011 Collected: 09/12/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<1230 (ug/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	12674-11-2	
PCB-1221 (Aroclor 1221)	<1230 t	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	11104-28-2	
PCB-1232 (Aroclor 1232)	<1230 t	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	11141-16-5	
PCB-1242 (Aroclor 1242)	<1230 t	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	53469-21-9	
PCB-1248 (Aroclor 1248)	7380 t	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	12672-29-6	
PCB-1254 (Aroclor 1254)	10200 ເ	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	11097-69-1	
PCB-1260 (Aroclor 1260)	<1230 ι	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	11096-82-5	
PCB, Total	17600 ເ	ıg/kg	3230	1230	20	10/01/08 13:36	10/13/08 20:50	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	10/01/08 13:36	10/13/08 20:50	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	10/01/08 13:36	10/13/08 20:50	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	2.8	%		0.10	1		10/03/08 10:05		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-UR1-LD2-G, 9/12/08 Lab ID: 409156012 Collected: 09/12/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results Un	its LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical Metho	d: EPA 8082 Prepa	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<131 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<131 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<131 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<131 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	53469-21-9	
PCB-1248 (Aroclor 1248)	1230 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	12672-29-6	
PCB-1254 (Aroclor 1254)	1680 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	11097-69-1	
PCB-1260 (Aroclor 1260)	294J ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	11096-82-5	
PCB, Total	3200 ug/kg	345	131	1	10/01/08 13:36	10/13/08 21:16	1336-36-3	
Tetrachloro-m-xylene (S)	93 %	40-136		1	10/01/08 13:36	10/13/08 21:16	877-09-8	
Decachlorobiphenyl (S)	98 %	47-145		1	10/01/08 13:36	10/13/08 21:16	2051-24-3	
Lipid	Analytical Metho	d: Pace Lipid						
Lipid	1.2 %		0.10	1		10/03/08 10:05		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-UR1-LD3-G, 9/12/08 Lab ID: 409156013 Collected: 09/12/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<271 u	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<271 u	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<271 u	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<271 u	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	53469-21-9	
PCB-1248 (Aroclor 1248)	901 ug	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	12672-29-6	
PCB-1254 (Aroclor 1254)	822 u	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	11097-69-1	
PCB-1260 (Aroclor 1260)	<271 u	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	11096-82-5	
PCB, Total	1720 ug	g/kg	714	271	1	10/01/08 13:36	10/13/08 21:42	1336-36-3	
Tetrachloro-m-xylene (S)	52 %		40-136		1	10/01/08 13:36	10/13/08 21:42	877-09-8	
Decachlorobiphenyl (S)	56 %		47-145		1	10/01/08 13:36	10/13/08 21:42	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.1 %			0.10	1		10/03/08 10:05		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-UR1-LD4-G, 9/12/08 Lab ID: 409156014 Collected: 09/12/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 ≀	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ւ	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ∪	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ∪	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	53469-21-9	
PCB-1248 (Aroclor 1248)	2040 u	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	12672-29-6	
PCB-1254 (Aroclor 1254)	1250 ւ	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ∪	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	11096-82-5	
PCB, Total	3290	ıg/kg	500	190	1	10/01/08 13:36	10/13/08 22:07	1336-36-3	
Tetrachloro-m-xylene (S)	91 %	%	40-136		1	10/01/08 13:36	10/13/08 22:07	877-09-8	
Decachlorobiphenyl (S)	95 %	6	47-145		1	10/01/08 13:36	10/13/08 22:07	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	2.3 %	%		0.10	1		10/03/08 10:05		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-CC2-G, 9/15/08 Lab ID: 409156015 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	53469-21-9	
PCB-1248 (Aroclor 1248)	4940 ւ	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	12672-29-6	
PCB-1254 (Aroclor 1254)	3750 ι	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	11097-69-1	M6
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	11096-82-5	
PCB, Total	8680 ເ	ıg/kg	1500	570	30	10/01/08 13:36	10/13/08 22:33	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		30	10/01/08 13:36	10/13/08 22:33	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	10/01/08 13:36	10/13/08 22:33	2051-24-3	S4
Lipid	Analytical	Method: Pac	ce Lipid						
Lipid	6.0 %	%		0.10	1		10/03/08 10:05		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-CC3-G, 9/15/08 Lab ID: 409156016 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<950 (ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	53469-21-9	
PCB-1248 (Aroclor 1248)	8350 t	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	12672-29-6	
PCB-1254 (Aroclor 1254)	8250 ւ	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	11096-82-5	
PCB, Total	16600 ເ	ıg/kg	2500	950	50	10/01/08 13:36	10/13/08 22:59	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	10/01/08 13:36	10/13/08 22:59	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	10/01/08 13:36	10/13/08 22:59	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	3.4	%		0.10	1		10/03/08 10:06		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-CC4-G, 9/15/08 Lab ID: 409156017 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<38.0 (ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<38.0 ≀	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<38.0 t	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<38.0 t	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	53469-21-9	
PCB-1248 (Aroclor 1248)	234 t	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	12672-29-6	
PCB-1254 (Aroclor 1254)	197 ւ	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	11097-69-1	
PCB-1260 (Aroclor 1260)	101 ເ	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	11096-82-5	
PCB, Total	532 ι	ıg/kg	100	38.0	2	10/01/08 13:36	10/13/08 23:25	1336-36-3	
Tetrachloro-m-xylene (S)	103 9	%	40-136		2	10/01/08 13:36	10/13/08 23:25	877-09-8	
Decachlorobiphenyl (S)	105 9	%	47-145		2	10/01/08 13:36	10/13/08 23:25	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	3.5	%		0.10	1		10/03/08 10:06		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-RB3-G, 9/15/08 Lab ID: 409156018 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	N 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 (ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	53469-21-9	
PCB-1248 (Aroclor 1248)	1090 ւ	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	12672-29-6	
PCB-1254 (Aroclor 1254)	789 ι	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<95.0 ≀	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	11096-82-5	
PCB, Total	1880 ւ	ıg/kg	250	95.0	5	10/01/08 13:36	10/13/08 23:51	1336-36-3	
Tetrachloro-m-xylene (S)	100 9	%	40-136		5	10/01/08 13:36	10/13/08 23:51	877-09-8	
Decachlorobiphenyl (S)	108 9	%	47-145		5	10/01/08 13:36	10/13/08 23:51	2051-24-3	
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.2	%		0.10	1		10/03/08 10:06		

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-RB4-G, 9/15/08 Lab ID: 409156019 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ι	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	53469-21-9	
PCB-1248 (Aroclor 1248)	1990 ւ	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	12672-29-6	
PCB-1254 (Aroclor 1254)	1480 ւ	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	11096-82-5	
PCB, Total	3470 ι	ıg/kg	500	190	10	10/01/08 13:36	10/14/08 00:17	1336-36-3	
Tetrachloro-m-xylene (S)	94 %	%	40-136		10	10/01/08 13:36	10/14/08 00:17	877-09-8	
Decachlorobiphenyl (S)	100 %	%	47-145		10	10/01/08 13:36	10/14/08 00:17	2051-24-3	
Lipid	Analytical	l Method: Pad	ce Lipid						
Lipid	1.8 %	%		0.10	1		10/03/08 10:07		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Sample: BL-MR2-RB5-G, 9/15/08 Lab ID: 409156020 Collected: 09/15/08 00:00 Received: 09/18/08 13:05 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<117 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	12674-11-2	
PCB-1221 (Aroclor 1221)	<117 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	11104-28-2	
PCB-1232 (Aroclor 1232)	<117 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	11141-16-5	
PCB-1242 (Aroclor 1242)	<117 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	53469-21-9	
PCB-1248 (Aroclor 1248)	1340 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	12672-29-6	
PCB-1254 (Aroclor 1254)	1380 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	11097-69-1	
PCB-1260 (Aroclor 1260)	135J u	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	11096-82-5	
PCB, Total	2860 U	ıg/kg	307	117	5	10/01/08 13:36	10/14/08 00:42	1336-36-3	
Tetrachloro-m-xylene (S)	98 %	6	40-136		5	10/01/08 13:36	10/14/08 00:42	877-09-8	
Decachlorobiphenyl (S)	108 %	6	47-145		5	10/01/08 13:36	10/14/08 00:42	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.0 %	6		0.10	1		10/03/08 10:07		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

QC Batch: OEXT/2826 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 409156001, 409156002, 409156003, 409156004, 409156005, 409156006, 409156007, 409156008, 409156009,

409156010, 409156011, 409156012, 409156013, 409156014, 409156015, 409156016, 409156017, 409156018,

409156019, 409156020

METHOD BLANK: 83325 Matrix: Tissue

Associated Lab Samples: 409156001, 409156002, 409156003, 409156004, 409156005, 409156006, 409156007, 409156008, 409156009,

409156010, 409156011, 409156012, 409156013, 409156014, 409156015, 409156016, 409156017, 409156018,

409156019, 409156020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/13/08 13:57	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/13/08 13:57	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/13/08 13:57	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/13/08 13:57	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/13/08 13:57	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/13/08 13:57	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/13/08 13:57	
Decachlorobiphenyl (S)	%	93	47-145	10/13/08 13:57	
Tetrachloro-m-xylene (S)	%	89	40-136	10/13/08 13:57	

LABORATORY CONTROL SAM	PLE: 83326					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	212	85	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			92	47-145	
Tetrachloro-m-xylene (S)	%			89	40-136	

MATRIX SPIKE & MATRIX SF	PIKE DUPLICAT	E: 83327			83328							
			MS	MSD								
		409156015	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<570			<570	<570					56	
PCB-1221 (Aroclor 1221)	ug/kg	<570			<570	<570					56	
PCB-1232 (Aroclor 1232)	ug/kg	<570			<570	<570					56	
PCB-1242 (Aroclor 1242)	ug/kg	<570			<570	<570					56	
PCB-1248 (Aroclor 1248)	ug/kg	4940			5190	5270				1	56	
PCB-1254 (Aroclor 1254)	ug/kg	3750	1000	1000	4850	4810	111	106	43-130	.9	56	M6
PCB-1260 (Aroclor 1260)	ug/kg	<570			<570	<570					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

QC Batch: OEXT/2841 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 409156001, 409156002, 409156003, 409156004, 409156005, 409156006, 409156007, 409156008, 409156009,

409156010, 409156011, 409156012, 409156013, 409156014, 409156015, 409156016, 409156017, 409156018,

409156019, 409156020

METHOD BLANK: 83963 Matrix: Tissue

Associated Lab Samples: 409156001, 409156002, 409156003, 409156004, 409156005, 409156006, 409156007, 409156008, 409156009,

409156010, 409156011, 409156012, 409156013, 409156014, 409156015, 409156016, 409156017, 409156018,

409156019, 409156020

SAMPLE DUPLICATE: 83964

Date: 10/17/2008 03:48 PM

Lipid

		409156015	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid		6.0	6.4	6	20	

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/17/2008 03:48 PM

1j	Surrogate recovery outside laboratory control limits.	Surrogate recovery could not be confirmed by re-extraction and re-
,	analysis due to insufficient sample volume.	

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

P2 Re-extraction or re-analysis could not be performed due to insufficient sample amount.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409156

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
409156001	BL-MR2-LD5-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
409156002	BL-MR2-LD6-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
409156003	BL-MR2-LD7-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156004	BL-MR2-LD8-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
409156005	BL-MR1-LD1-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156006	BL-MR1-LD2-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
09156007	BL-MR1-LD3-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156008	BL-MR1-LD4-G, 9/10/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156009	BL-MR1-LD5-G, 9/11/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156010	BL-MR1-LD6-G, 9/11/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156011	BL-UR1-LD1-G, 9/12/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156012	BL-UR1-LD2-G, 9/12/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
409156013	BL-UR1-LD3-G, 9/12/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156014	BL-UR1-LD4-G, 9/12/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156015	BL-MR2-CC2-G, 9/15/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
109156016	BL-MR2-CC3-G, 9/15/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/1975
09156017	BL-MR2-CC4-G, 9/15/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/197
09156018	BL-MR2-RB3-G, 9/15/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/197
09156019	BL-MR2-RB4-G, 9/15/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/197
09156020	BL-MR2-RB5-G, 9/15/08	EPA 3540	OEXT/2826	EPA 8082	GCSV/197
109156001	BL-MR2-LD5-G, 9/10/08	Pace Lipid	OEXT/2841		
109156002	BL-MR2-LD6-G, 9/10/08	Pace Lipid	OEXT/2841		
109156003	BL-MR2-LD7-G, 9/10/08	Pace Lipid	OEXT/2841		
109156004	BL-MR2-LD8-G, 9/10/08	Pace Lipid	OEXT/2841		
109156005	BL-MR1-LD1-G, 9/10/08	Pace Lipid	OEXT/2841		
109156006	BL-MR1-LD2-G, 9/10/08	Pace Lipid	OEXT/2841		
109156007	BL-MR1-LD3-G, 9/10/08	Pace Lipid	OEXT/2841		
109156008	BL-MR1-LD4-G, 9/10/08	Pace Lipid	OEXT/2841		
109156009	BL-MR1-LD5-G, 9/11/08	Pace Lipid	OEXT/2841		
109156010	BL-MR1-LD6-G, 9/11/08	Pace Lipid	OEXT/2841		
109156011	BL-UR1-LD1-G, 9/12/08	Pace Lipid	OEXT/2841		
109156012	BL-UR1-LD2-G, 9/12/08	Pace Lipid	OEXT/2841		
109156013	BL-UR1-LD3-G, 9/12/08	Pace Lipid	OEXT/2841		
09156014	BL-UR1-LD4-G, 9/12/08	Pace Lipid	OEXT/2841		
09156015	BL-MR2-CC2-G, 9/15/08	Pace Lipid	OEXT/2841		
109156016	BL-MR2-CC3-G, 9/15/08	Pace Lipid	OEXT/2841		
109156017	BL-MR2-CC4-G, 9/15/08	Pace Lipid	OEXT/2841		
109156018	BL-MR2-RB3-G, 9/15/08	Pace Lipid	OEXT/2841		
109156019	BL-MR2-RB4-G, 9/15/08	Pace Lipid	OEXT/2841		
109156020	BL-MR2-RB5-G, 9/15/08	Pace Lipid	OEXT/2841		

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October 17, 2008

BRANDY PROFFITT
POLLUTION RISK SERVICES
7870 EAST KEMPER ROAD
SUITE 240
Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Lab ID	Sample ID	Matrix	Date Collected	Date Received
409245001	BL-MR1-CC1-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409245002	BL-MR1-CC2-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409245003	BL-MR1-CC3-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409245004	BL-MR1-CC4-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409245005	BL-MR1-RB1-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409245006	BL-UR1-LD5-G, 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40
409245007	BL-UR1-LD6-G. 9/17/08	Tissue	09/17/08 00:00	09/19/08 13:40





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

₋ab ID	Sample ID	Method	Analysts	Analytes Reported
109245001	BL-MR1-CC1-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
109245002	BL-MR1-CC2-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
109245003	BL-MR1-CC3-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
09245004	BL-MR1-CC4-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
109245005	BL-MR1-RB1-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
09245006	BL-UR1-LD5-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
09245007	BL-UR1-LD6-G, 9/17/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

7 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2777

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-MR1-CC1-G, 9/17/08 (Lab ID: 409245001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-CC2-G, 9/17/08 (Lab ID: 409245002)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-CC3-G, 9/17/08 (Lab ID: 409245003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-MR1-CC4-G, 9/17/08 (Lab ID: 409245004)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 80756)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 80757)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2777

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 409245001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

• MS (Lab ID: 80756)

• PCB-1254 (Aroclor 1254)

• MSD (Lab ID: 80757)

• PCB-1254 (Aroclor 1254)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 409245

Method: Pace Lipid **Description:** Lipid

Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

7 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-MR1-CC1-G, 9/17/08 Lab ID: 409245001 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	53469-21-9	
PCB-1248 (Aroclor 1248)	9740 (ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	12672-29-6	
PCB-1254 (Aroclor 1254)	6160 ເ	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	11096-82-5	
PCB, Total	15900 ւ	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:03	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/25/08 14:08	09/30/08 10:03	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/25/08 14:08	09/30/08 10:03	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	4.0	%		0.10	1		09/29/08 07:20		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-MR1-CC2-G, 9/17/08 Lab ID: 409245002 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<3800 t	ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<3800 (ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<3800 (ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<3800 (ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	53469-21-9	
PCB-1248 (Aroclor 1248)	28800 (ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	12672-29-6	
PCB-1254 (Aroclor 1254)	20500 (ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<3800 (ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	11096-82-5	
PCB, Total	49200 t	ug/kg	10000	3800	200	09/25/08 14:08	09/30/08 10:31	1336-36-3	
Tetrachloro-m-xylene (S)	0 (%	40-136		200	09/25/08 14:08	09/30/08 10:31	877-09-8	S4
Decachlorobiphenyl (S)	0 (%	47-145		200	09/25/08 14:08	09/30/08 10:31	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	12.6	%		0.10	1		09/29/08 07:21		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-MR1-CC3-G, 9/17/08 Lab ID: 409245003 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	N 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 t	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	53469-21-9	
PCB-1248 (Aroclor 1248)	17500 ເ	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	12672-29-6	
PCB-1254 (Aroclor 1254)	12300	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	11096-82-5	
PCB, Total	29800 (ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 10:59	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/25/08 14:08	09/30/08 10:59	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/25/08 14:08	09/30/08 10:59	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	6.3	%		0.10	1		09/29/08 07:21		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-MR1-CC4-G, 9/17/08 Lab ID: 409245004 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	53469-21-9	
PCB-1248 (Aroclor 1248)	9440 ເ	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	12672-29-6	
PCB-1254 (Aroclor 1254)	7140 ι	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 t	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	11096-82-5	
PCB, Total	16600 ເ	ıg/kg	5000	1900	100	09/25/08 14:08	09/30/08 11:27	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/25/08 14:08	09/30/08 11:27	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/25/08 14:08	09/30/08 11:27	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	5.3	%		0.10	1		09/29/08 07:21		

Date: 10/17/2008 03:44 PM

REPORT OF LABORATORY ANALYSIS





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-MR1-RB1-G, 9/17/08 Lab ID: 409245005 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<152 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<152 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<152 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<152 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	53469-21-9	
PCB-1248 (Aroclor 1248)	1260 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	12672-29-6	
PCB-1254 (Aroclor 1254)	1370 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	11097-69-1	
PCB-1260 (Aroclor 1260)	157J u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	11096-82-5	
PCB, Total	2790 u	g/kg	400	152	4	09/25/08 14:08	09/30/08 11:55	1336-36-3	
Tetrachloro-m-xylene (S)	90 %	, 0	40-136		4	09/25/08 14:08	09/30/08 11:55	877-09-8	
Decachlorobiphenyl (S)	98 %	ó	47-145		4	09/25/08 14:08	09/30/08 11:55	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.81 %	0		0.10	1		09/29/08 07:22		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-UR1-LD5-G, 9/17/08 Lab ID: 409245006 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<760 ∪	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<760 ∪	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<760 ∪	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<760 ∪	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	53469-21-9	
PCB-1248 (Aroclor 1248)	6900 U	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	12672-29-6	
PCB-1254 (Aroclor 1254)	8240 U	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<760 ∪	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	11096-82-5	
PCB, Total	15100 u	ıg/kg	2000	760	10	09/25/08 14:08	09/30/08 12:23	1336-36-3	
Tetrachloro-m-xylene (S)	96 %	6	40-136		10	09/25/08 14:08	09/30/08 12:23	877-09-8	
Decachlorobiphenyl (S)	108 %	6	47-145		10	09/25/08 14:08	09/30/08 12:23	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	4.0 %	6		0.10	1		09/29/08 07:22		

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REPORT OF LABORATORY ANALYSIS





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Sample: BL-UR1-LD6-G, 9/17/08 Lab ID: 409245007 Collected: 09/17/08 00:00 Received: 09/19/08 13:40 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<302 (ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<302 ≀	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<302 ≀	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<302 \	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	53469-21-9	
PCB-1248 (Aroclor 1248)	3290 t	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	12672-29-6	
PCB-1254 (Aroclor 1254)	1820 ւ	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<302 ≀	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	11096-82-5	
PCB, Total	5110 ι	ıg/kg	794	302	1	09/25/08 14:08	09/30/08 12:51	1336-36-3	
Tetrachloro-m-xylene (S)	93 9	%	40-136		1	09/25/08 14:08	09/30/08 12:51	877-09-8	
Decachlorobiphenyl (S)	97 9	%	47-145		1	09/25/08 14:08	09/30/08 12:51	2051-24-3	
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	4.4	%		0.10	1		09/29/08 07:22		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

QC Batch: OEXT/2777 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides Associated Lab Samples: 409245001, 409245002, 409245003, 409245004, 409245005, 409245006, 409245007

METHOD BLANK: 80754 Matrix: Tissue

Associated Lab Samples: 409245001, 409245002, 409245003, 409245004, 409245005, 409245006, 409245007

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	09/30/08 08:11	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	09/30/08 08:11	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	09/30/08 08:11	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	09/30/08 08:11	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	09/30/08 08:11	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	09/30/08 08:11	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	09/30/08 08:11	
Decachlorobiphenyl (S)	%	96	47-145	09/30/08 08:11	
Tetrachloro-m-xylene (S)	%	99	40-136	09/30/08 08:11	

LABORATORY	CONTROL	SAMPLE:	80755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	272	109	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			101	47-145	
Tetrachloro-m-xylene (S)	%			100	40-136	

MATRIX SPIKE & MATRIX SF	PIKE DUPLICAT	E: 80756			80757							
	4	109245001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<1900			<1900	<1900					56	
PCB-1221 (Aroclor 1221)	ug/kg	<1900			<1900	<1900					56	
PCB-1232 (Aroclor 1232)	ug/kg	<1900			<1900	<1900					56	
PCB-1242 (Aroclor 1242)	ug/kg	<1900			<1900	<1900					56	
PCB-1248 (Aroclor 1248)	ug/kg	9740			13100	13000				.7	56	
PCB-1254 (Aroclor 1254)	ug/kg	6160	1000	1000	9520	9500	336	334	43-130	.3	56	M6
PCB-1260 (Aroclor 1260)	ug/kg	<1900			<1900	<1900					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

QC Batch: OEXT/2786 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID

Associated Lab Samples: 409245001, 409245002, 409245003, 409245004, 409245005, 409245006, 409245007

METHOD BLANK: 81220 Matrix: Tissue

Associated Lab Samples: 409245001, 409245002, 409245003, 409245004, 409245005, 409245006, 409245007

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

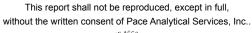
Lipid % <0.10 09/29/08 07:20

SAMPLE DUPLICATE: 81221

		409245001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid	%	4.0	3.8	5	20	

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/17/2008 03:44 PM

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 409245

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
409245001	BL-MR1-CC1-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245002	BL-MR1-CC2-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245003	BL-MR1-CC3-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245004	BL-MR1-CC4-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245005	BL-MR1-RB1-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245006	BL-UR1-LD5-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245007	BL-UR1-LD6-G, 9/17/08	EPA 3540	OEXT/2777	EPA 8082	GCSV/1947
409245001	BL-MR1-CC1-G, 9/17/08	Pace Lipid	OEXT/2786		
409245002	BL-MR1-CC2-G, 9/17/08	Pace Lipid	OEXT/2786		
409245003	BL-MR1-CC3-G, 9/17/08	Pace Lipid	OEXT/2786		
409245004	BL-MR1-CC4-G, 9/17/08	Pace Lipid	OEXT/2786		
409245005	BL-MR1-RB1-G, 9/17/08	Pace Lipid	OEXT/2786		
409245006	BL-UR1-LD5-G, 9/17/08	Pace Lipid	OEXT/2786		
409245007	BL-UR1-LD6-G, 9/17/08	Pace Lipid	OEXT/2786		

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October 17, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on August 28, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408328001	BL-UR2-RB5-G, 8/22/08	Tissue	08/22/08 00:00	08/28/08 14:50
408328002	BL-UR2-RB6-G, 8/22/08	Tissue	08/22/08 00:00	08/28/08 14:50
408328003	BL-UR2-RB7-G, 8/22/08	Tissue	08/22/08 00:00	08/28/08 14:50
408328004	BL-LR-SB1-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328005	BL-LR-SB2-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328006	BL-LR-SB3-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328007	BL-LR-SB4-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328008	BL-LR-SB5-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328009	BL-LR-SB6-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328010	BL-LR-SB7-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328011	BL-LR-SB8-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328012	BL-LR-JWS1-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328013	BL-LR-AWS1-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328014	BL-LR-AWS2-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328015	BL-LR-AC1-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328016	BL-LR-AC2-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328017	BL-LR-CC1-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328018	BL-LR-CC2-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328019	BL-LR-CC3-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50
408328020	BL-LR-CC4-G, 8/25/08	Tissue	08/25/08 00:00	08/28/08 14:50





SAMPLE ANALYTE COUNT

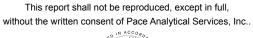
Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408328001	BL-UR2-RB5-G, 8/22/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328002	BL-UR2-RB6-G, 8/22/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328003	BL-UR2-RB7-G, 8/22/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328004	BL-LR-SB1-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328005	BL-LR-SB2-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328006	BL-LR-SB3-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328007	BL-LR-SB4-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328008	BL-LR-SB5-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328009	BL-LR-SB6-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328010	BL-LR-SB7-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328011	BL-LR-SB8-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328012	BL-LR-JWS1-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328013	BL-LR-AWS1-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328014	BL-LR-AWS2-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328015	BL-LR-AC1-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328016	BL-LR-AC2-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328017	BL-LR-CC1-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328018	BL-LR-CC2-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1
408328019	BL-LR-CC3-G, 8/25/08	EPA 8082	BDS	10

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	KPH	1
408328020	BL-LR-CC4-G, 8/25/08	EPA 8082	BDS	10
		Pace Lipid	KPH	1





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2765

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- BL-LR-AC2-G, 8/25/08 (Lab ID: 408328016)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-CC1-G, 8/25/08 (Lab ID: 408328017)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-CC2-G, 8/25/08 (Lab ID: 408328018)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-CC3-G, 8/25/08 (Lab ID: 408328019)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-CC4-G, 8/25/08 (Lab ID: 408328020)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-SB1-G, 8/25/08 (Lab ID: 408328004)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-SB2-G, 8/25/08 (Lab ID: 408328005)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-SB5-G, 8/25/08 (Lab ID: 408328008)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-SB6-G, 8/25/08 (Lab ID: 408328009)

REPORT OF LABORATORY ANALYSIS

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Method: **EPA 8082**

Description: 8082 GCS PCBs, Tissue Client: POLLUTION RISK SERVICES

Date: October 17, 2008

QC Batch: OEXT/2765

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- · Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-LR-SB7-G, 8/25/08 (Lab ID: 408328010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-LR-SB8-G, 8/25/08 (Lab ID: 408328011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-RB5-G, 8/22/08 (Lab ID: 408328001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 80356)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 80357)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2765

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 408328006

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 80356)
 - PCB-1242 (Aroclor 1242)
- MSD (Lab ID: 80357)
 - PCB-1242 (Aroclor 1242)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



REPORT OF LABORATORY ANALYSIS







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 17, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

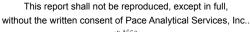
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





REPORT OF LABORATORY ANALYSIS



Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-UR2-RB5-G, 8/22/08 Lab ID: 408328001 Collected: 08/22/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ∪	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ∪	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ∪	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	53469-21-9	
PCB-1248 (Aroclor 1248)	2270 u	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	12672-29-6	
PCB-1254 (Aroclor 1254)	2050 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	11096-82-5	
PCB, Total	4320 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 21:00	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/24/08 13:56	09/29/08 21:00	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/24/08 13:56	09/29/08 21:00	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.47 %	%		0.10	1		09/26/08 09:18		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-UR2-RB6-G, 8/22/08 Lab ID: 408328002 Collected: 08/22/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical M	lethod: EPA	8082 Prepar	ration Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	53469-21-9	
PCB-1248 (Aroclor 1248)	2340 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	12672-29-6	
PCB-1254 (Aroclor 1254)	1430 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	11096-82-5	
PCB, Total	3780 ug/	kg	500	190	10	09/24/08 13:56	09/29/08 21:28	1336-36-3	
Tetrachloro-m-xylene (S)	98 %		40-136		10	09/24/08 13:56	09/29/08 21:28	877-09-8	
Decachlorobiphenyl (S)	108 %		47-145		10	09/24/08 13:56	09/29/08 21:28	2051-24-3	
Lipid	Analytical M	lethod: Pace	e Lipid						
Lipid	0.70 %			0.10	1		09/26/08 09:18		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-UR2-RB7-G, 8/22/08 Lab ID: 408328003 Collected: 08/22/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	53469-21-9	
PCB-1248 (Aroclor 1248)	1820 ւ	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	12672-29-6	
PCB-1254 (Aroclor 1254)	1220 ւ	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	11096-82-5	
PCB, Total	3040 t	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 21:56	1336-36-3	
Tetrachloro-m-xylene (S)	88 %	%	40-136		10	09/24/08 13:56	09/29/08 21:56	877-09-8	
Decachlorobiphenyl (S)	103 %	%	47-145		10	09/24/08 13:56	09/29/08 21:56	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.58	%		0.10	1		09/26/08 09:19		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB1-G, 8/25/08 Lab ID: 408328004 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	53469-21-9	
PCB-1248 (Aroclor 1248)	4440 t	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	12672-29-6	
PCB-1254 (Aroclor 1254)	3720	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	11096-82-5	
PCB, Total	8170 ւ	ıg/kg	1500	570	30	09/24/08 13:56	09/29/08 22:24	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/24/08 13:56	09/29/08 22:24	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/24/08 13:56	09/29/08 22:24	2051-24-3	S4
Lipid	Analytical Method: Pace Lipid								
Lipid	1.2	%		0.10	1		09/26/08 09:19		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB2-G, 8/25/08 Lab ID: 408328005 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	53469-21-9	
PCB-1248 (Aroclor 1248)	2600 t	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	12672-29-6	
PCB-1254 (Aroclor 1254)	2540 (ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	11096-82-5	
PCB, Total	5140 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/29/08 22:52	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 13:56	09/29/08 22:52	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 13:56	09/29/08 22:52	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.38	%		0.10	1		09/26/08 09:19		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB3-G, 8/25/08 Lab ID: 408328006 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<190	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<190	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<190	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	53469-21-9	M0
PCB-1248 (Aroclor 1248)	1140	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	12672-29-6	
PCB-1254 (Aroclor 1254)	888	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<190	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	11096-82-5	
PCB, Total	2020	ug/kg	500	190	10	09/24/08 13:56	09/29/08 23:20	1336-36-3	
Tetrachloro-m-xylene (S)	48 9	%	40-136		10	09/24/08 13:56	09/29/08 23:20	877-09-8	
Decachlorobiphenyl (S)	55 (%	47-145		10	09/24/08 13:56	09/29/08 23:20	2051-24-3	
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	0.65	%		0.10	1		09/26/08 09:19		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB4-G, 8/25/08 Lab ID: 408328007 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	53469-21-9	
PCB-1248 (Aroclor 1248)	948 ເ	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	12672-29-6	
PCB-1254 (Aroclor 1254)	829 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	11096-82-5	
PCB, Total	1780 ւ	ıg/kg	500	190	10	09/24/08 13:56	09/29/08 23:48	1336-36-3	
Tetrachloro-m-xylene (S)	47 %	%	40-136		10	09/24/08 13:56	09/29/08 23:48	877-09-8	
Decachlorobiphenyl (S)	54 %	%	47-145		10	09/24/08 13:56	09/29/08 23:48	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.68	%		0.10	1		09/26/08 09:20		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB5-G, 8/25/08 Lab ID: 408328008 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 t	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	53469-21-9	
PCB-1248 (Aroclor 1248)	3970 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	12672-29-6	
PCB-1254 (Aroclor 1254)	3040 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	11096-82-5	
PCB, Total	7010 t	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 00:16	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 13:56	09/30/08 00:16	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 13:56	09/30/08 00:16	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	1.5	%		0.10	1		09/26/08 09:20		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB6-G, 8/25/08 Lab ID: 408328009 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	53469-21-9	
PCB-1248 (Aroclor 1248)	2480 t	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	12672-29-6	
PCB-1254 (Aroclor 1254)	2360 t	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	11096-82-5	
PCB, Total	4840 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 01:40	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	%	40-136		20	09/24/08 13:56	09/30/08 01:40	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		20	09/24/08 13:56	09/30/08 01:40	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.92	%		0.10	1		09/26/08 09:20		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB7-G, 8/25/08 Lab ID: 408328010 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	53469-21-9	
PCB-1248 (Aroclor 1248)	5720 t	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	12672-29-6	
PCB-1254 (Aroclor 1254)	5140 ι	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	11096-82-5	
PCB, Total	10900 ւ	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 02:08	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/24/08 13:56	09/30/08 02:08	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/24/08 13:56	09/30/08 02:08	2051-24-3	S4
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	2.1	%		0.10	1		09/26/08 09:20		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-SB8-G, 8/25/08 Lab ID: 408328011 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	53469-21-9	
PCB-1248 (Aroclor 1248)	3510 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	12672-29-6	
PCB-1254 (Aroclor 1254)	2790 ւ	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	11096-82-5	
PCB, Total	6300 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 02:36	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/24/08 13:56	09/30/08 02:36	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 13:56	09/30/08 02:36	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.0 %	%		0.10	1		09/26/08 09:21		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-JWS1-G, 8/25/08 Lab ID: 408328012 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ∪	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ∪	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ∪	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ∪	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	53469-21-9	
PCB-1248 (Aroclor 1248)	706 u	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	12672-29-6	
PCB-1254 (Aroclor 1254)	563 ւ	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ∪	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	11096-82-5	
PCB, Total	1270 ւ	ıg/kg	200	76.0	2	09/24/08 13:56	09/30/08 03:04	1336-36-3	
Tetrachloro-m-xylene (S)	96 %	6	40-136		2	09/24/08 13:56	09/30/08 03:04	877-09-8	
Decachlorobiphenyl (S)	95 %	%	47-145		2	09/24/08 13:56	09/30/08 03:04	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.14 %	%		0.10	1		09/26/08 09:21		

Date: 10/17/2008 03:49 PM

REPORT OF LABORATORY ANALYSIS





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-AWS1-G, 8/25/08 Lab ID: 408328013 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	\ 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ι	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ເ	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ເ	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	53469-21-9	
PCB-1248 (Aroclor 1248)	3080 ι	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	12672-29-6	
PCB-1254 (Aroclor 1254)	1880 ւ	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ເ	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	11096-82-5	
PCB, Total	4960 ւ	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 03:31	1336-36-3	
Tetrachloro-m-xylene (S)	98 %	6	40-136		10	09/24/08 13:56	09/30/08 03:31	877-09-8	
Decachlorobiphenyl (S)	111 9	%	47-145		10	09/24/08 13:56	09/30/08 03:31	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.0 %	%		0.10	1		09/26/08 09:21		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-AWS2-G, 8/25/08 Lab ID: 408328014 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<190 t	ug/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ≀	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ≀	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	53469-21-9	
PCB-1248 (Aroclor 1248)	2290 t	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	12672-29-6	
PCB-1254 (Aroclor 1254)	1360 ւ	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 ≀	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	11096-82-5	
PCB, Total	3650 ι	ıg/kg	500	190	10	09/24/08 13:56	09/30/08 04:00	1336-36-3	
Tetrachloro-m-xylene (S)	96 9	%	40-136		10	09/24/08 13:56	09/30/08 04:00	877-09-8	
Decachlorobiphenyl (S)	104 9	%	47-145		10	09/24/08 13:56	09/30/08 04:00	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.70	%		0.10	1		09/26/08 09:21		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-AC1-G, 8/25/08 Lab ID: 408328015 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ∪	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ∪	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ∪	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ∪	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	53469-21-9	
PCB-1248 (Aroclor 1248)	1570 ւ	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	12672-29-6	
PCB-1254 (Aroclor 1254)	837 u	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	11097-69-1	
PCB-1260 (Aroclor 1260)	111J ւ	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	11096-82-5	
PCB, Total	2520 և	ıg/kg	250	95.0	5	09/24/08 13:56	09/30/08 04:27	1336-36-3	
Tetrachloro-m-xylene (S)	93 %	6	40-136		5	09/24/08 13:56	09/30/08 04:27	877-09-8	
Decachlorobiphenyl (S)	102 %	6	47-145		5	09/24/08 13:56	09/30/08 04:27	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	2.5 %	6		0.10	1		09/26/08 09:22		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-AC2-G, 8/25/08 Lab ID: 408328016 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 ≀	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ∪	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ∪	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ∪	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	53469-21-9	
PCB-1248 (Aroclor 1248)	6920	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	12672-29-6	
PCB-1254 (Aroclor 1254)	7760 ს	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	11097-69-1	
PCB-1260 (Aroclor 1260)	1070J ւ	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	11096-82-5	
PCB, Total	15700 ւ	ıg/kg	2500	950	50	09/24/08 13:56	09/30/08 04:55	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		50	09/24/08 13:56	09/30/08 04:55	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		50	09/24/08 13:56	09/30/08 04:55	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	2.7 %	%		0.10	1		09/26/08 09:22		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-CC1-G, 8/25/08 Lab ID: 408328017 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	53469-21-9	
PCB-1248 (Aroclor 1248)	5370 t	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	12672-29-6	
PCB-1254 (Aroclor 1254)	3120 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	11096-82-5	
PCB, Total	8490 ւ	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 05:23	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 13:56	09/30/08 05:23	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 13:56	09/30/08 05:23	2051-24-3	S4
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	4.1	%		0.10	1		09/26/08 09:22		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-CC2-G, 8/25/08 Lab ID: 408328018 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ∖	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	53469-21-9	
PCB-1248 (Aroclor 1248)	6520 (ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	12672-29-6	
PCB-1254 (Aroclor 1254)	5140 ι	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	11096-82-5	
PCB, Total	11700 ւ	ıg/kg	1500	570	30	09/24/08 13:56	09/30/08 05:51	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/24/08 13:56	09/30/08 05:51	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/24/08 13:56	09/30/08 05:51	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	4.3	%		0.10	1		09/26/08 09:22		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-CC3-G, 8/25/08 Lab ID: 408328019 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ration Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	53469-21-9	
PCB-1248 (Aroclor 1248)	3860 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	12672-29-6	
PCB-1254 (Aroclor 1254)	2500 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 (ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	11096-82-5	
PCB, Total	6370 ι	ıg/kg	1000	380	20	09/24/08 13:56	09/30/08 06:19	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/24/08 13:56	09/30/08 06:19	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/24/08 13:56	09/30/08 06:19	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	5.0	%		0.10	1		09/26/08 09:22		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Sample: BL-LR-CC4-G, 8/25/08 Lab ID: 408328020 Collected: 08/25/08 00:00 Received: 08/28/08 14:50 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	53469-21-9	
PCB-1248 (Aroclor 1248)	16100 ւ	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	12672-29-6	
PCB-1254 (Aroclor 1254)	12300 ւ	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	11096-82-5	
PCB, Total	28400 t	ıg/kg	5000	1900	100	09/24/08 13:56	09/30/08 06:47	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/24/08 13:56	09/30/08 06:47	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/24/08 13:56	09/30/08 06:47	2051-24-3	S4
Lipid	Analytica	Method: Pad	e Lipid						
Lipid	7.8	%		0.10	1		09/26/08 09:23		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

QC Batch: OEXT/2765 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408328001, 408328002, 408328003, 408328004, 408328005, 408328006, 408328007, 408328008, 408328009,

 $408328010,\ 408328011,\ 408328012,\ 408328013,\ 408328014,\ 408328015,\ 408328016,\ 408328017,\ 408328018,\ 4083$

408328019, 408328020

METHOD BLANK: 80354 Matrix: Tissue

Associated Lab Samples: 408328001, 408328002, 408328003, 408328004, 408328005, 408328006, 408328007, 408328008, 408328009,

408328010, 408328011, 408328012, 408328013, 408328014, 408328015, 408328016, 408328017, 408328018,

408328019, 408328020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	09/29/08 19:07	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	09/29/08 19:07	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	09/29/08 19:07	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	09/29/08 19:07	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	09/29/08 19:07	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	09/29/08 19:07	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	09/29/08 19:07	
Decachlorobiphenyl (S)	%	99	47-145	09/29/08 19:07	
Tetrachloro-m-xylene (S)	%	97	40-136	09/29/08 19:07	

LABORATORY CONTROL SAMPLE:	80355					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	-	<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg	250	275	110	40-128	
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg		<19.0			
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			101	47-145	
Tetrachloro-m-xylene (S)	%			99	40-136	

Description		408328006	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec	DDD	Max	0
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
PCB-1016 (Aroclor 1016)	ug/kg	<190			<380	<380					56	
PCB-1221 (Aroclor 1221)	ug/kg	<190			<380	<380					56	
PCB-1232 (Aroclor 1232)	ug/kg	<190			<380	<380					56	
PCB-1242 (Aroclor 1242)	ug/kg	<190	1000	1000	<380	<380	0	0	43-130		56	M0
PCB-1248 (Aroclor 1248)	ug/kg	1140			4400	2740				47	56	
PCB-1254 (Aroclor 1254)	ug/kg	888			2550	1580				47	56	
PCB-1260 (Aroclor 1260)	ug/kg	<190			<380	<380					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

Date: 10/17/2008 03:49 PM

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 408328

QC Batch: OEXT/2779 Analysis Method: Pace Lipid QC Batch Method: Pace Lipid Analysis Description:

408328001, 408328002, 408328003, 408328004, 408328005, 408328006, 408328007, 408328008, 408328009, Associated Lab Samples:

408328010, 408328011, 408328012, 408328013, 408328014, 408328015, 408328016, 408328017, 408328018,

408328019, 408328020

METHOD BLANK: 80965 Matrix: Tissue

Associated Lab Samples: 408328001, 408328002, 408328003, 408328004, 408328005, 408328006, 408328007, 408328008, 408328009,

408328010, 408328011, 408328012, 408328013, 408328014, 408328015, 408328016, 408328017, 408328018,

408328019, 408328020

Blank Reporting Analyzed Parameter Units Result Limit Qualifiers % 09/26/08 09:18 < 0.10

SAMPLE DUPLICATE: 80966

Date: 10/17/2008 03:49 PM

Lipid

		408328006	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid		0.65	0.65	0	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/17/2008 03:49 PM

M0 Matrix spike recovery was outside laboratory control limits.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408328

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408328001	BL-UR2-RB5-G, 8/22/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328002	BL-UR2-RB6-G, 8/22/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328003	BL-UR2-RB7-G, 8/22/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328004	BL-LR-SB1-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328005	BL-LR-SB2-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328006	BL-LR-SB3-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328007	BL-LR-SB4-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328008	BL-LR-SB5-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328009	BL-LR-SB6-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328010	BL-LR-SB7-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328011	BL-LR-SB8-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328012	BL-LR-JWS1-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328013	BL-LR-AWS1-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328014	BL-LR-AWS2-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328015	BL-LR-AC1-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328016	BL-LR-AC2-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328017	BL-LR-CC1-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328018	BL-LR-CC2-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328019	BL-LR-CC3-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328020	BL-LR-CC4-G, 8/25/08	EPA 3540	OEXT/2765	EPA 8082	GCSV/1943
408328001	BL-UR2-RB5-G, 8/22/08	Pace Lipid	OEXT/2779		
408328002	BL-UR2-RB6-G, 8/22/08	Pace Lipid	OEXT/2779		
408328003	BL-UR2-RB7-G, 8/22/08	Pace Lipid	OEXT/2779		
408328004	BL-LR-SB1-G, 8/25/08	Pace Lipid	OEXT/2779		
408328005	BL-LR-SB2-G, 8/25/08	Pace Lipid	OEXT/2779		
408328006	BL-LR-SB3-G, 8/25/08	Pace Lipid	OEXT/2779		
408328007	BL-LR-SB4-G, 8/25/08	Pace Lipid	OEXT/2779		
408328008	BL-LR-SB5-G, 8/25/08	Pace Lipid	OEXT/2779		
408328009	BL-LR-SB6-G, 8/25/08	Pace Lipid	OEXT/2779		
408328010	BL-LR-SB7-G, 8/25/08	Pace Lipid	OEXT/2779		
408328011	BL-LR-SB8-G, 8/25/08	Pace Lipid	OEXT/2779		
408328012	BL-LR-JWS1-G, 8/25/08	Pace Lipid	OEXT/2779		
408328013	BL-LR-AWS1-G, 8/25/08	Pace Lipid	OEXT/2779		
408328014	BL-LR-AWS2-G, 8/25/08	Pace Lipid	OEXT/2779		
408328015	BL-LR-AC1-G, 8/25/08	Pace Lipid	OEXT/2779		
408328016	BL-LR-AC2-G, 8/25/08	Pace Lipid	OEXT/2779		
408328017	BL-LR-CC1-G, 8/25/08	Pace Lipid	OEXT/2779		
408328018	BL-LR-CC2-G, 8/25/08	Pace Lipid	OEXT/2779		
408328019	BL-LR-CC3-G, 8/25/08	Pace Lipid	OEXT/2779		
408328020	BL-LR-CC4-G, 8/25/08	Pace Lipid	OEXT/2779		





October 15, 2008

BRANDY PROFFITT POLLUTION RISK SERVICES 7870 EAST KEMPER ROAD SUITE 240 Cincinnati, OH 45249

RE: Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Dear BRANDY PROFFITT:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod holteneya

tod.noltemeyer@pacelabs.com Project Manager

Enclosures





CERTIFICATIONS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Green Bay Certification IDs

Louisiana Certification #: 04169 Louisiana Certification #: 04168 Kentucky Certification #: 83 Kentucky Certification #: 82

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
Minnesota Certification #: 055-999-334

Minnesota Certification #: 055-999-334
North Carolina Certification #: 503
North Carolina Certification #: 503
North Dakota Certification #: R-200
North Dakota Certification #: R-150
New York Certification #: 11888
New York Certification #: 11887
Illinois Certification #: 200051
Illinois Certification #: 200050

Florida (NELAP) Certification #: E87951 Florida (NELAP) Certification #: E87948

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SAMPLE SUMMARY

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Lab ID	Sample ID	Matrix	Date Collected	Date Received
408721001	BL-UR2-AC7-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721002	BL-UR2-AC8-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721003	BL-UR2-AC9-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721004	BL-UR2-AC10-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721005	BL-UR2-AC11-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721006	BL-UR2-AC12-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721007	BL-UR2-AC13-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721008	BL-UR2-AC14-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721009	BL-UR2-AC15-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721010	BL-UR2-AC16-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721011	BL-UR2-AWS5-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721012	BL-UR2-AWS6-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721013	BL-UR2-AWS7-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721014	BL-UR2-AWS8-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721015	BL-UR2-RB8-G, 9/6/08	Tissue	09/06/08 00:00	09/09/08 13:30
408721016	BL-MR2-SB1-G, 9/8/08	Tissue	09/08/08 00:00	09/09/08 13:30
408721017	BL-MR2-SB2-G, 9/8/08	Tissue	09/08/08 00:00	09/09/08 13:30
408721018	BL-MR2-SB3-G, 9/8/08	Tissue	09/08/08 00:00	09/09/08 13:30
408721019	BL-MR2-SB4-G, 9/8/08	Tissue	09/08/08 00:00	09/09/08 13:30
408721020	BL-MR2-SB5-G, 9/8/08	Tissue	09/08/08 00:00	09/09/08 13:30





SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Lab ID	Sample ID	Method	Analysts	Analytes Reported
408721001	BL-UR2-AC7-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721002	BL-UR2-AC8-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721003	BL-UR2-AC9-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721004	BL-UR2-AC10-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721005	BL-UR2-AC11-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721006	BL-UR2-AC12-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721007	BL-UR2-AC13-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721008	BL-UR2-AC14-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721009	BL-UR2-AC15-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721010	BL-UR2-AC16-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721011	BL-UR2-AWS5-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721012	BL-UR2-AWS6-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721013	BL-UR2-AWS7-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721014	BL-UR2-AWS8-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721015	BL-UR2-RB8-G, 9/6/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721016	BL-MR2-SB1-G, 9/8/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721017	BL-MR2-SB2-G, 9/8/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721018	BL-MR2-SB3-G, 9/8/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1
408721019	BL-MR2-SB4-G, 9/8/08	EPA 8082	CAH	10

REPORT OF LABORATORY ANALYSIS This report shall not be reproduced, except in full,

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SAMPLE ANALYTE COUNT

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		Pace Lipid	DAL	1
408721020	BL-MR2-SB5-G, 9/8/08	EPA 8082	CAH	10
		Pace Lipid	DAL	1





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/2795

- S4: Surrogate recovery not evaluated against control limits due to sample dilution.
 - BL-MR2-SB2-G, 9/8/08 (Lab ID: 408721017)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR2-SB3-G, 9/8/08 (Lab ID: 408721018)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-MR2-SB5-G, 9/8/08 (Lab ID: 408721020)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC11-G, 9/6/08 (Lab ID: 408721005)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC12-G, 9/6/08 (Lab ID: 408721006)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC14-G, 9/6/08 (Lab ID: 408721008)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC16-G, 9/6/08 (Lab ID: 408721010)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC7-G, 9/6/08 (Lab ID: 408721001)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
 - BL-UR2-AC8-G, 9/6/08 (Lab ID: 408721002)

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

QC Batch: OEXT/2795

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- BL-UR2-AC9-G, 9/6/08 (Lab ID: 408721003)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-AWS5-G, 9/6/08 (Lab ID: 408721011)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-AWS6-G, 9/6/08 (Lab ID: 408721012)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-AWS7-G, 9/6/08 (Lab ID: 408721013)
 - · Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- BL-UR2-AWS8-G, 9/6/08 (Lab ID: 408721014)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MS (Lab ID: 82235)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)
- MSD (Lab ID: 82236)
 - Decachlorobiphenyl (S)
 - Tetrachloro-m-xylene (S)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/2795

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 408721001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 82235)
 - PCB-1254 (Aroclor 1254)
- MSD (Lab ID: 82236)
 - PCB-1254 (Aroclor 1254)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Method: EPA 8082

Description: 8082 GCS PCBs, Tissue **Client:** POLLUTION RISK SERVICES

Date: October 15, 2008

Additional Comments:







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Method: Pace Lipid

Description: Lipid

Client: POLLUTION RISK SERVICES

Date: October 15, 2008

General Information:

20 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.







Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC7-G, 9/6/08 Lab ID: 408721001 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<950 (ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	53469-21-9	
PCB-1248 (Aroclor 1248)	5350 (ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	12672-29-6	
PCB-1254 (Aroclor 1254)	3880 ເ	ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	11097-69-1	M6
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	11096-82-5	
PCB, Total	9230 t	ıg/kg	2500	950	50	09/29/08 10:06	10/06/08 18:38	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/29/08 10:06	10/06/08 18:38	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/29/08 10:06	10/06/08 18:38	2051-24-3	S4
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	0.98	%		0.10	1		10/06/08 08:11		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC8-G, 9/6/08 Lab ID: 408721002 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	53469-21-9	
PCB-1248 (Aroclor 1248)	13100 ւ	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	12672-29-6	
PCB-1254 (Aroclor 1254)	9530 ເ	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	11096-82-5	
PCB, Total	22700 t	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 19:04	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/29/08 10:08	10/06/08 19:04	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/29/08 10:08	10/06/08 19:04	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	3.2	%		0.10	1		10/06/08 08:12		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC9-G, 9/6/08 Lab ID: 408721003 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	53469-21-9	
PCB-1248 (Aroclor 1248)	2470 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	12672-29-6	
PCB-1254 (Aroclor 1254)	1080 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	11096-82-5	
PCB, Total	3550 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 19:30	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/29/08 10:08	10/06/08 19:30	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/29/08 10:08	10/06/08 19:30	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	0.96 %	6		0.10	1		10/06/08 08:12		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC10-G, 9/6/08 Lab ID: 408721004 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<95.0 ι	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<95.0 ≀	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<95.0 ≀	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<95.0 ≀	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	53469-21-9	
PCB-1248 (Aroclor 1248)	710 ι	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	12672-29-6	
PCB-1254 (Aroclor 1254)	899 ւ	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	11097-69-1	
PCB-1260 (Aroclor 1260)	104J ւ	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	11096-82-5	
PCB, Total	1710 ւ	ıg/kg	250	95.0	5	09/29/08 10:08	10/06/08 19:56	1336-36-3	
Tetrachloro-m-xylene (S)	80 %	%	40-136		5	09/29/08 10:08	10/06/08 19:56	877-09-8	
Decachlorobiphenyl (S)	87 %	%	47-145		5	09/29/08 10:08	10/06/08 19:56	2051-24-3	
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.32	%		0.10	1		10/06/08 08:12		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC11-G, 9/6/08 Lab ID: 408721005 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<3800 (ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<3800 (ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<3800 (ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<3800 (ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	53469-21-9	
PCB-1248 (Aroclor 1248)	26300 (ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	12672-29-6	
PCB-1254 (Aroclor 1254)	21500 t	ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	11097-69-1	
PCB-1260 (Aroclor 1260)	<3800 (ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	11096-82-5	
PCB, Total	47700 t	ug/kg	10000	3800	200	09/29/08 10:08	10/06/08 20:21	1336-36-3	
Tetrachloro-m-xylene (S)	0 (%	40-136		200	09/29/08 10:08	10/06/08 20:21	877-09-8	S4
Decachlorobiphenyl (S)	0 '	%	47-145		200	09/29/08 10:08	10/06/08 20:21	2051-24-3	S4
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	10.0	%		0.10	1		10/06/08 08:12		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC12-G, 9/6/08 Lab ID: 408721006 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	53469-21-9	
PCB-1248 (Aroclor 1248)	6240 ι	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	12672-29-6	
PCB-1254 (Aroclor 1254)	4250 ι	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	11096-82-5	
PCB, Total	10500 ເ	ıg/kg	2500	950	50	09/29/08 10:08	10/06/08 20:47	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/29/08 10:08	10/06/08 20:47	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		50	09/29/08 10:08	10/06/08 20:47	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	1.1 %	%		0.10	1		10/06/08 08:12		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC13-G, 9/6/08 Lab ID: 408721007 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	12674-11-2	
PCB-1221 (Aroclor 1221)	< 76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	11104-28-2	
PCB-1232 (Aroclor 1232)	< 76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	53469-21-9	
PCB-1248 (Aroclor 1248)	720 t	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	12672-29-6	
PCB-1254 (Aroclor 1254)	303 ເ	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	11097-69-1	
PCB-1260 (Aroclor 1260)	< 76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	11096-82-5	
PCB, Total	1020 (ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 21:13	1336-36-3	
Tetrachloro-m-xylene (S)	84 9	%	40-136		4	09/29/08 10:08	10/06/08 21:13	877-09-8	
Decachlorobiphenyl (S)	90 9	%	47-145		4	09/29/08 10:08	10/06/08 21:13	2051-24-3	
Lipid	Analytica	l Method: Pad	e Lipid						
Lipid	0.29	%		0.10	1		10/06/08 08:13		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC14-G, 9/6/08 Lab ID: 408721008 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ug/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	53469-21-9	
PCB-1248 (Aroclor 1248)	10100 ւ	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	12672-29-6	
PCB-1254 (Aroclor 1254)	5750 ι	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ≀	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	11096-82-5	
PCB, Total	15800 ເ	ıg/kg	5000	1900	100	09/29/08 10:08	10/06/08 21:39	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/29/08 10:08	10/06/08 21:39	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		100	09/29/08 10:08	10/06/08 21:39	2051-24-3	S4
Lipid	Analytica	l Method: Pac	e Lipid						
Lipid	2.1	%		0.10	1		10/06/08 08:13		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC15-G, 9/6/08 Lab ID: 408721009 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<76.0 €	ug/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.0 ∖	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	53469-21-9	
PCB-1248 (Aroclor 1248)	834 ι	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	12672-29-6	
PCB-1254 (Aroclor 1254)	557 ι	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	11097-69-1	
PCB-1260 (Aroclor 1260)	<76.0 ≀	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	11096-82-5	
PCB, Total	1390 ւ	ıg/kg	200	76.0	4	09/29/08 10:08	10/06/08 22:56	1336-36-3	
Tetrachloro-m-xylene (S)	79 9	%	40-136		4	09/29/08 10:08	10/06/08 22:56	877-09-8	
Decachlorobiphenyl (S)	88 9	%	47-145		4	09/29/08 10:08	10/06/08 22:56	2051-24-3	
Lipid	Analytica	l Method: Pad	ce Lipid						
Lipid	0.40	%		0.10	1		10/06/08 08:13		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AC16-G, 9/6/08 Lab ID: 408721010 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<3800 t	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<3800 ℓ	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<3800 ℓ	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<3800 ℓ	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	53469-21-9	
PCB-1248 (Aroclor 1248)	20300 t	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	12672-29-6	
PCB-1254 (Aroclor 1254)	17000 ເ	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	11097-69-1	
PCB-1260 (Aroclor 1260)	<3800 ≀	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	11096-82-5	
PCB, Total	37300 t	ıg/kg	10000	3800	200	09/29/08 10:08	10/06/08 23:22	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		200	09/29/08 10:08	10/06/08 23:22	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		200	09/29/08 10:08	10/06/08 23:22	2051-24-3	S4
Lipid	Analytica	Method: Pac	e Lipid						
Lipid	7.5	%		0.10	1		10/06/08 08:13		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AWS5-G, 9/6/08 Lab ID: 408721011 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	53469-21-9	
PCB-1248 (Aroclor 1248)	1810 u	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	12672-29-6	
PCB-1254 (Aroclor 1254)	2140 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	11096-82-5	
PCB, Total	3950 U	ıg/kg	1000	380	20	09/29/08 10:08	10/06/08 23:47	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		20	09/29/08 10:08	10/06/08 23:47	877-09-8	S4
Decachlorobiphenyl (S)	0 %	6	47-145		20	09/29/08 10:08	10/06/08 23:47	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	0.36 %	6		0.10	1		10/06/08 08:14		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AWS6-G, 9/6/08 Lab ID: 408721012 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepai	ration Meth	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<1900 t	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<1900 ι	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<1900 ເ	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<1900 ເ	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	53469-21-9	
PCB-1248 (Aroclor 1248)	8260 ւ	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	12672-29-6	
PCB-1254 (Aroclor 1254)	8330 ι	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<1900 ι	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	11096-82-5	
PCB, Total	16600 ເ	ıg/kg	5000	1900	100	09/29/08 10:08	10/07/08 00:13	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		100	09/29/08 10:08	10/07/08 00:13	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		100	09/29/08 10:08	10/07/08 00:13	2051-24-3	S4
Lipid	Analytical	Method: Pad	ce Lipid						
Lipid	1.3 %	%		0.10	1		10/06/08 08:14		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AWS7-G, 9/6/08 Lab ID: 408721013 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	l Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	53469-21-9	
PCB-1248 (Aroclor 1248)	3370 ι	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	12672-29-6	
PCB-1254 (Aroclor 1254)	2580 ւ	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	11096-82-5	
PCB, Total	5950 ւ	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 00:39	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/29/08 10:08	10/07/08 00:39	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/29/08 10:08	10/07/08 00:39	2051-24-3	S4
Lipid	Analytica	l Method: Pac	ce Lipid						
Lipid	1.1 9	%		0.10	1		10/06/08 08:14		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-AWS8-G, 9/6/08 Lab ID: 408721014 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	53469-21-9	
PCB-1248 (Aroclor 1248)	3830 ι	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	12672-29-6	
PCB-1254 (Aroclor 1254)	3680 t	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	11096-82-5	
PCB, Total	7520 ι	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 01:05	1336-36-3	
Tetrachloro-m-xylene (S)	0 %	6	40-136		50	09/29/08 10:08	10/07/08 01:05	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		50	09/29/08 10:08	10/07/08 01:05	2051-24-3	S4
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.84	%		0.10	1		10/06/08 08:14		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-UR2-RB8-G, 9/6/08 Lab ID: 408721015 Collected: 09/06/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepai	ration Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<38.0 (ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<38.0 ≀	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<38.0 ≀	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<38.0 t	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	53469-21-9	
PCB-1248 (Aroclor 1248)	436 t	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	12672-29-6	
PCB-1254 (Aroclor 1254)	303 ເ	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	11097-69-1	
PCB-1260 (Aroclor 1260)	<38.0 ≀	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	11096-82-5	
PCB, Total	739 ι	ıg/kg	100	38.0	1	09/29/08 10:08	10/07/08 01:30	1336-36-3	
Tetrachloro-m-xylene (S)	53 9	%	40-136		1	09/29/08 10:08	10/07/08 01:30	877-09-8	
Decachlorobiphenyl (S)	55 9	%	47-145		1	09/29/08 10:08	10/07/08 01:30	2051-24-3	
Lipid	Analytica	Method: Pad	ce Lipid						
Lipid	0.24	%		0.10	1		10/06/08 08:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-MR2-SB1-G, 9/8/08 Lab ID: 408721016 Collected: 09/08/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 ≀	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 ∪	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 ≀	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	53469-21-9	
PCB-1248 (Aroclor 1248)	1500 ւ	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	12672-29-6	
PCB-1254 (Aroclor 1254)	1760 և	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	11097-69-1	
PCB-1260 (Aroclor 1260)	274J υ	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	11096-82-5	
PCB, Total	3530 ს	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 01:56	1336-36-3	
Tetrachloro-m-xylene (S)	78 %	%	40-136		10	09/29/08 10:08	10/07/08 01:56	877-09-8	
Decachlorobiphenyl (S)	90 %	%	47-145		10	09/29/08 10:08	10/07/08 01:56	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	0.88 %	%		0.10	1		10/06/08 08:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-MR2-SB2-G, 9/8/08 Lab ID: 408721017 Collected: 09/08/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP/	A 3540			
PCB-1016 (Aroclor 1016)	<950 ∪	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	53469-21-9	
PCB-1248 (Aroclor 1248)	3570 ι	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	12672-29-6	
PCB-1254 (Aroclor 1254)	4070 ւ	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	11097-69-1	
PCB-1260 (Aroclor 1260)	<950 ≀	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	11096-82-5	
PCB, Total	7650 ι	ıg/kg	2500	950	50	09/29/08 10:08	10/07/08 02:22	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		50	09/29/08 10:08	10/07/08 02:22	877-09-8	S4
Decachlorobiphenyl (S)	0 %	%	47-145		50	09/29/08 10:08	10/07/08 02:22	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	1.1 %	%		0.10	1		10/06/08 08:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-MR2-SB3-G, 9/8/08 Lab ID: 408721018 Collected: 09/08/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	A 8082 Prepar	ation Metho	od: EP	A 3540			
PCB-1016 (Aroclor 1016)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	53469-21-9	
PCB-1248 (Aroclor 1248)	2990 ւ	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	12672-29-6	
PCB-1254 (Aroclor 1254)	2550 ι	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<570 ≀	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	11096-82-5	
PCB, Total	5540 ւ	ıg/kg	1500	570	30	09/29/08 10:08	10/07/08 02:48	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		30	09/29/08 10:08	10/07/08 02:48	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		30	09/29/08 10:08	10/07/08 02:48	2051-24-3	S4
Lipid	Analytical	Method: Pad	e Lipid						
Lipid	2.0 %	%		0.10	1		10/06/08 08:15		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-MR2-SB4-G, 9/8/08 Lab ID: 408721019 Collected: 09/08/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytical	Method: EPA	N 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<190 u	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<190 U	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<190 U	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<190 U	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	53469-21-9	
PCB-1248 (Aroclor 1248)	1360 U	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	12672-29-6	
PCB-1254 (Aroclor 1254)	1280 u	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<190 U	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	11096-82-5	
PCB, Total	2640 U	ıg/kg	500	190	10	09/29/08 10:08	10/07/08 03:13	1336-36-3	
Tetrachloro-m-xylene (S)	86 %	6	40-136		10	09/29/08 10:08	10/07/08 03:13	877-09-8	
Decachlorobiphenyl (S)	94 %	6	47-145		10	09/29/08 10:08	10/07/08 03:13	2051-24-3	
Lipid	Analytical	Method: Pac	e Lipid						
Lipid	1.1 %	6		0.10	1		10/06/08 08:16		





Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Sample: BL-MR2-SB5-G, 9/8/08 Lab ID: 408721020 Collected: 09/08/08 00:00 Received: 09/09/08 13:30 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCBs, Tissue	Analytica	Method: EPA	A 8082 Prepar	ation Metho	od: EPA	A 3540			
PCB-1016 (Aroclor 1016)	<380 (ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	12674-11-2	
PCB-1221 (Aroclor 1221)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	11104-28-2	
PCB-1232 (Aroclor 1232)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	11141-16-5	
PCB-1242 (Aroclor 1242)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	53469-21-9	
PCB-1248 (Aroclor 1248)	2050 t	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	12672-29-6	
PCB-1254 (Aroclor 1254)	1600 ւ	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	11097-69-1	
PCB-1260 (Aroclor 1260)	<380 ≀	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	11096-82-5	
PCB, Total	3650 ι	ıg/kg	1000	380	20	09/29/08 10:08	10/07/08 03:39	1336-36-3	
Tetrachloro-m-xylene (S)	0 9	%	40-136		20	09/29/08 10:08	10/07/08 03:39	877-09-8	S4
Decachlorobiphenyl (S)	0 9	%	47-145		20	09/29/08 10:08	10/07/08 03:39	2051-24-3	S4
Lipid	Analytica	Method: Pac	ce Lipid						
Lipid	1.1 9	%		0.10	1		10/06/08 08:16		





QUALITY CONTROL DATA

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

QC Batch: OEXT/2795 Analysis Method: EPA 8082

QC Batch Method: EPA 3540 Analysis Description: 8082 GCS Tissue Pesticides

Associated Lab Samples: 408721001, 408721002, 408721003, 408721004, 408721005, 408721006, 408721007, 408721008, 408721009,

 $408721010,\ 408721011,\ 408721012,\ 408721013,\ 408721014,\ 408721015,\ 408721016,\ 408721017,\ 408721018,\ 4087$

408721019, 408721020

METHOD BLANK: 82233 Matrix: Tissue

Associated Lab Samples: 408721001, 408721002, 408721003, 408721004, 408721005, 408721006, 408721007, 408721008, 408721009,

408721010, 408721011, 408721012, 408721013, 408721014, 408721015, 408721016, 408721017, 408721018,

408721019, 408721020

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<19.0	50.0	10/06/08 16:55	
PCB-1221 (Aroclor 1221)	ug/kg	<19.0	50.0	10/06/08 16:55	
PCB-1232 (Aroclor 1232)	ug/kg	<19.0	50.0	10/06/08 16:55	
PCB-1242 (Aroclor 1242)	ug/kg	<19.0	50.0	10/06/08 16:55	
PCB-1248 (Aroclor 1248)	ug/kg	<19.0	50.0	10/06/08 16:55	
PCB-1254 (Aroclor 1254)	ug/kg	<19.0	50.0	10/06/08 16:55	
PCB-1260 (Aroclor 1260)	ug/kg	<19.0	50.0	10/06/08 16:55	
Decachlorobiphenyl (S)	%	82	47-145	10/06/08 16:55	
Tetrachloro-m-xylene (S)	%	83	40-136	10/06/08 16:55	

LABORATORY CONTROL SAMPL	_E: 82234					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<19.0			
PCB-1221 (Aroclor 1221)	ug/kg		<19.0			
PCB-1232 (Aroclor 1232)	ug/kg		<19.0			
PCB-1242 (Aroclor 1242)	ug/kg		<19.0			
PCB-1248 (Aroclor 1248)	ug/kg		<19.0			
PCB-1254 (Aroclor 1254)	ug/kg	250	207	83	40-128	
PCB-1260 (Aroclor 1260)	ug/kg		<19.0			
Decachlorobiphenyl (S)	%			79	47-145	
Tetrachloro-m-xylene (S)	%			81	40-136	

MATRIX SPIKE & MATRIX SP	PIKE DUPLICAT	TE: 82235			82236		·					
			MS	MSD								
		408721001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	- <u> </u>			<950	<950					56	
PCB-1221 (Aroclor 1221)	ug/kg	<950			<950	<950					56	
PCB-1232 (Aroclor 1232)	ug/kg	<950			<950	<950					56	
PCB-1242 (Aroclor 1242)	ug/kg	<950			<950	<950					56	
PCB-1248 (Aroclor 1248)	ug/kg	5350			5600	5810				4	56	
PCB-1254 (Aroclor 1254)	ug/kg	3880	1000	1000	4920	5050	104	116	43-130	3	56	M6
PCB-1260 (Aroclor 1260)	ug/kg	<950			<950	<950					56	
Decachlorobiphenyl (S)	%						0	0	47-145			S4
Tetrachloro-m-xylene (S)	%						0	0	40-136			S4

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QUALITY CONTROL DATA

CB08-002 SHEBOYGAN RIVER Project:

Pace Project No.: 408721

QC Batch: OEXT/2808 Analysis Method: Pace Lipid QC Batch Method: Pace Lipid Analysis Description:

408721001, 408721002, 408721003, 408721004, 408721005, 408721006, 408721007, 408721008, 408721009, Associated Lab Samples:

408721010, 408721011, 408721012, 408721013, 408721014, 408721015, 408721016, 408721017, 408721018,

408721019, 408721020

METHOD BLANK: 82612 Matrix: Tissue

Associated Lab Samples: 408721001, 408721002, 408721003, 408721004, 408721005, 408721006, 408721007, 408721008, 408721009,

408721010, 408721011, 408721012, 408721013, 408721014, 408721015, 408721016, 408721017, 408721018,

408721019, 408721020

Blank Reporting Parameter Units Result Limit Analyzed Qualifiers % 10/06/08 08:11 < 0.10

SAMPLE DUPLICATE: 82613

Date: 10/15/2008 01:45 PM

Lipid

			408721001	Dup		Max	
Param	eter	Units	Result	Result	RPD	RPD	Qualifiers
Lipid			0.98	0.99		20	

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QUALIFIERS

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date: 10/15/2008 01:45 PM

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CB08-002 SHEBOYGAN RIVER

Pace Project No.: 408721

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
408721001	BL-UR2-AC7-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721002	BL-UR2-AC8-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721003	BL-UR2-AC9-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721004	BL-UR2-AC10-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721005	BL-UR2-AC11-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721006	BL-UR2-AC12-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721007	BL-UR2-AC13-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721008	BL-UR2-AC14-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721009	BL-UR2-AC15-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721010	BL-UR2-AC16-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721011	BL-UR2-AWS5-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721012	BL-UR2-AWS6-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721013	BL-UR2-AWS7-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721014	BL-UR2-AWS8-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721015	BL-UR2-RB8-G, 9/6/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721016	BL-MR2-SB1-G, 9/8/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721017	BL-MR2-SB2-G, 9/8/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721018	BL-MR2-SB3-G, 9/8/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721019	BL-MR2-SB4-G, 9/8/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721020	BL-MR2-SB5-G, 9/8/08	EPA 3540	OEXT/2795	EPA 8082	GCSV/1960
408721001	BL-UR2-AC7-G, 9/6/08	Pace Lipid	OEXT/2808		
408721002	BL-UR2-AC8-G, 9/6/08	Pace Lipid	OEXT/2808		
408721003	BL-UR2-AC9-G, 9/6/08	Pace Lipid	OEXT/2808		
408721004	BL-UR2-AC10-G, 9/6/08	Pace Lipid	OEXT/2808		
408721005	BL-UR2-AC11-G, 9/6/08	Pace Lipid	OEXT/2808		
408721006	BL-UR2-AC12-G, 9/6/08	Pace Lipid	OEXT/2808		
408721007	BL-UR2-AC13-G, 9/6/08	Pace Lipid	OEXT/2808		
408721008	BL-UR2-AC14-G, 9/6/08	Pace Lipid	OEXT/2808		
408721009	BL-UR2-AC15-G, 9/6/08	Pace Lipid	OEXT/2808		
408721010	BL-UR2-AC16-G, 9/6/08	Pace Lipid	OEXT/2808		
408721011	BL-UR2-AWS5-G, 9/6/08	Pace Lipid	OEXT/2808		
408721012	BL-UR2-AWS6-G, 9/6/08	Pace Lipid	OEXT/2808		
408721013	BL-UR2-AWS7-G, 9/6/08	Pace Lipid	OEXT/2808		
408721014	BL-UR2-AWS8-G, 9/6/08	Pace Lipid	OEXT/2808		
408721015	BL-UR2-RB8-G, 9/6/08	Pace Lipid	OEXT/2808		
408721016	BL-MR2-SB1-G, 9/8/08	Pace Lipid	OEXT/2808		
408721017	BL-MR2-SB2-G, 9/8/08	Pace Lipid	OEXT/2808		
408721018	BL-MR2-SB3-G, 9/8/08	Pace Lipid	OEXT/2808		
408721019	BL-MR2-SB4-G, 9/8/08	Pace Lipid	OEXT/2808		
408721020	BL-MR2-SB5-G, 9/8/08	Pace Lipid	OEXT/2808		

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Appendix 3

Charts

Chart 1
2008 Baseline Fish Monitoring PCB Results - Sheboygan River

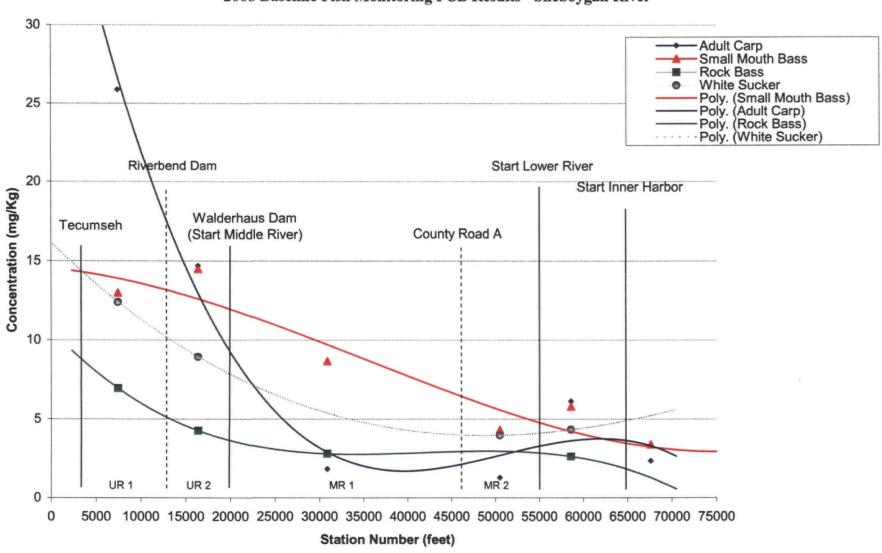


Chart 2
Upper River Site 1 PCB Results - Small Mouth Bass

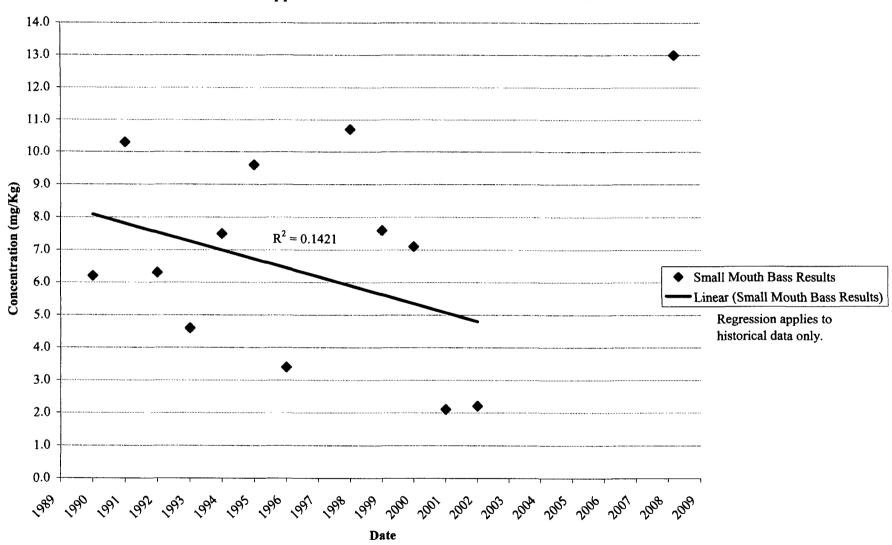


Chart 3
Upper River Site 2 PCB Results - Small Mouth Bass

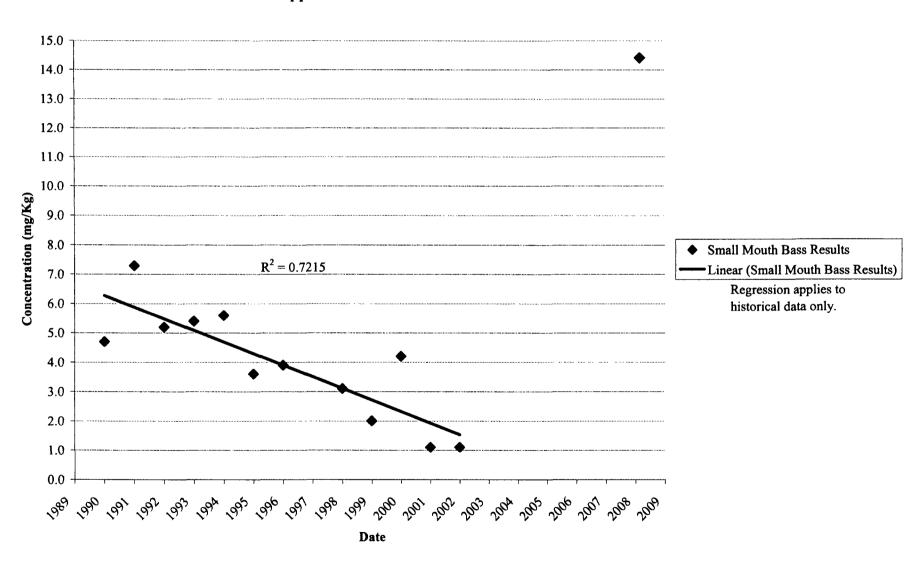


Chart 4
Upper River PCB Results - White Sucker

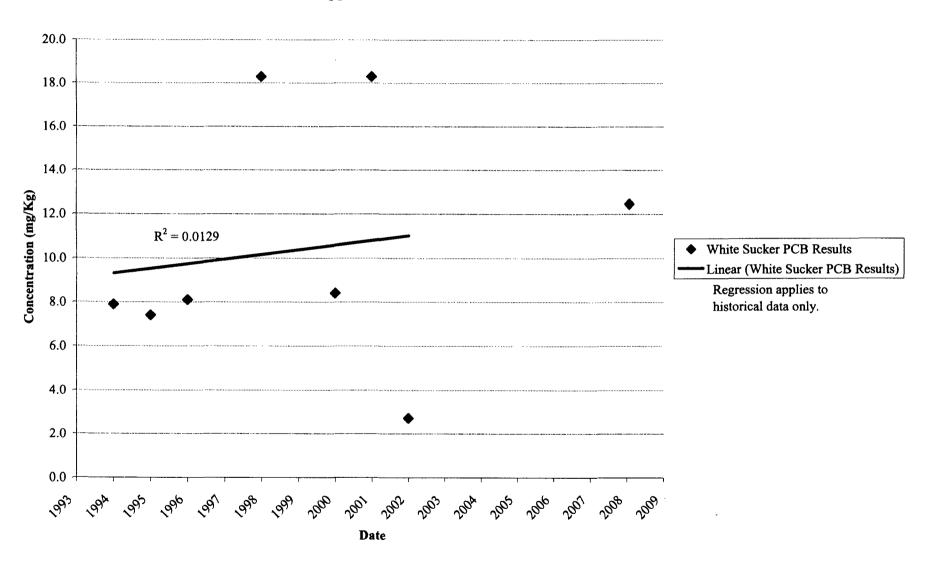


Chart 5
Upper River 2 PCB Results - White Suckers

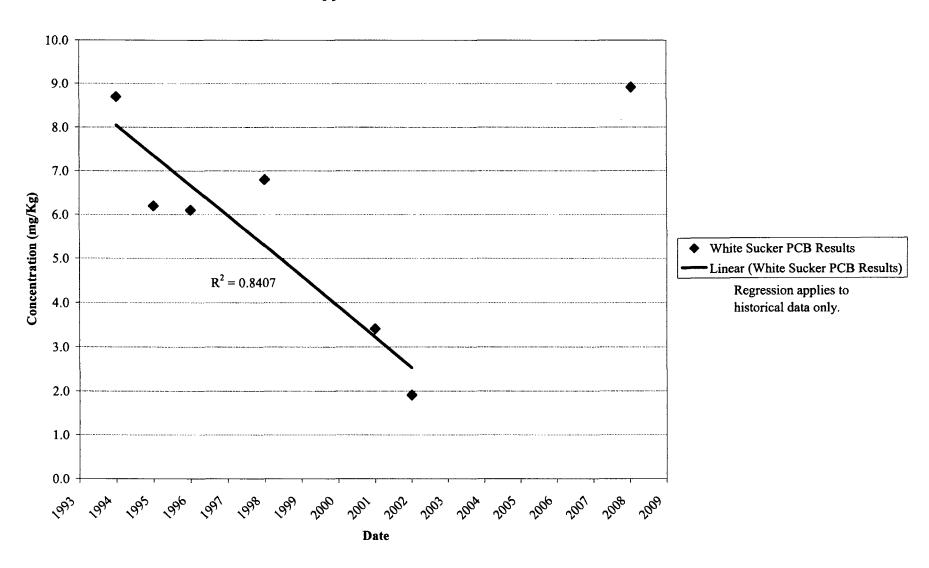


Chart 6
Upper River 1 Linear Regression Analysis of Selected Fish Species

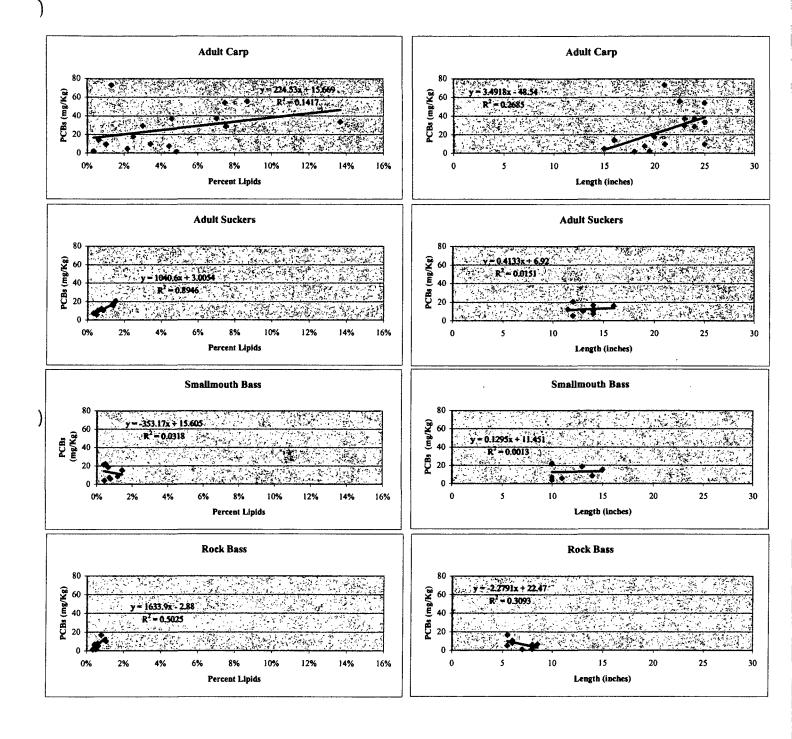
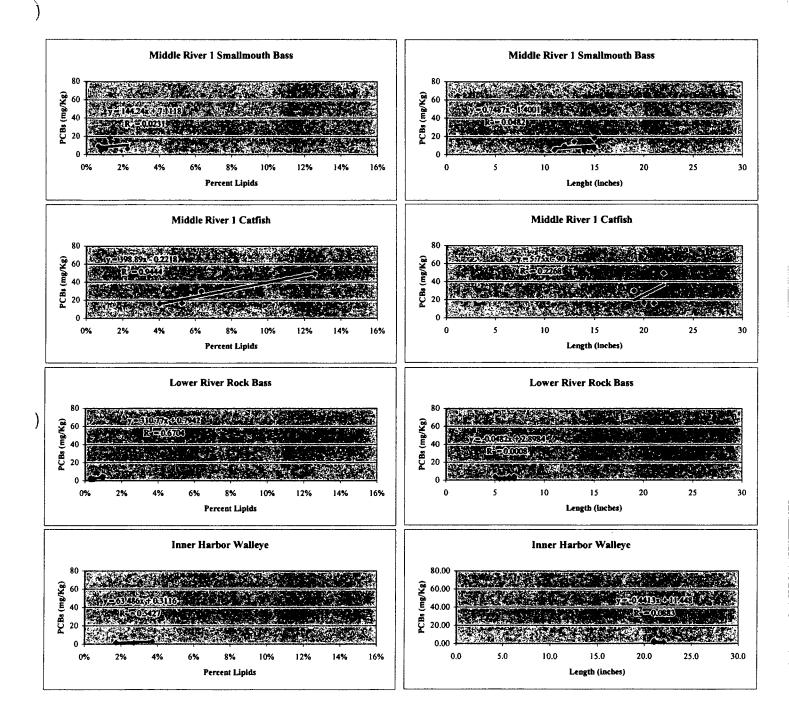


Chart 7 Other Reaches Linear Regression of Selected Fish Species



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Appendix 4

ProUCL Documentation

UPPER RIVER 1

	Α	В	Тс	ГоТ	E	l F	T G	Н		T .	T K	1 1
1		<u> </u>	<u> </u>	General UC				1		<u> </u>	<u> </u>	<u> </u>
		User Selec	cted Options	Upper River	1							
2			From File	1		Post-Reme	diation\2_Sam	plina Results	\5 Fish Mo	nitoring\Base	eline Stats\U	R1\UR1 Fish
3	~	Fu	Il Precision	OFF				pg				
-)	Confidence		95%								
\dashv		of Bootstrap		2000					••••••	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, . ,
6	Number	n bootstrap v	Operations	2000								
7		···-	***************************************									
8			·						*****			
9	A. Carp											
10	·····		·									
11			* , , , , , , , , , , , , , , , , , , ,		No page page of the page base has been to the control of the contr		al Statistics		************	_,		
12			Numi	ber of Valid O	bservations	16			Numbe	r of Distinct	Observations	16
13		_										
14			Raw S	tatistics				L	og-transfor	med Statisti		
15			· · · · · · · · · · · · · · · · · · ·		Minimum	1.63				Minimun	n of Log Data	0.489
16			·,		Maximum	73.1				Maximun	n of Log Data	4.292
17			· _ p. 200000000000000000000000000000000000		Mear	25.88				Mea	n of log Data	2.784
18	***************************************				Mediar	23				S	D of log Data	1.154
19					SD	21.44		· · · · · · · · · · · · · · · · · · ·		19 MILL FOR POLICE LIST OF PROPERTY LISTS COM-		
20				Coefficient	of Variation	0.829						<u> </u>
21			**************************************		Skewness	0.789					~	
22			·			4						.1
23						Relevant	UCL Statistics					
24	,,	,	Normal Dist	ribution Test				Le	ognormal D	istribution T	est	
ر ا	7		S	hapiro Wilk T	est Statistic	0.912			S	Shapiro Wilk	Test Statistic	0.927
26	J		S	hapiro Wilk C	ritical Value	0.887			s	hapiro Wilk	Critical Value	0.887
27		Data appe	ar Normal a	t 5% Significa	nce Level	J	<u> </u>	Data appear	Lognormal	at 5% Signi	ficance Leve	.L ;
28												
		As	suming Non	mal Distributi	on			Assı	ıming Logn	ormal Distrit	oution	
29					lent's-t UCL	35.28					95% H-UCL	75.78
30		95%	UCLs (Adiu	sted for Skev		<u> </u>			95%	Chebyshev	(MVUE) UCL	<u> </u>
31				95% Adjuste		35.83					(MVUE) UCL	
32					dified-t UCL						(MVUE) UCL	1
33			·	3070100								1
34							1					

	A B C D E	F	G H I J K	
35	Gamma Distribution Test	r	Data Distribution	
36	k star (bias corrected)		Data appear Normal at 5% Significance Level	
37	Theta Star			
ا ،	nu star			
	Approximate Chi Square Value (.05)	<u>. </u>	Nonparametric Statistics	
40	Adjusted Level of Significance	L	95% CLT UCL	
41	Adjusted Chi Square Value	19.52	95% Jackknife UCL	
42			95% Standard Bootstrap UCL	
43	Anderson-Darling Test Statistic	0.274	95% Bootstrap-t UCL	37.24
44	Anderson-Darling 5% Critical Value	0.76	95% Hall's Bootstrap UCL	36.3
45	Kolmogorov-Smirnov Test Statistic	0.159	95% Percentile Bootstrap UCL	34.31
46	Kolmogorov-Smirnov 5% Critical Value	0.22	95% BCA Bootstrap UCL	35.14
47	Data appear Gamma Distributed at 5% Significance L	_evel	95% Chebyshev(Mean, Sd) UCL	49.24
48			97.5% Chebyshev(Mean, Sd) UCL	59.35
49	Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	79.22
50	95% Approximate Gamma UCL	41.03		
51	95% Adjusted Gamma UCL	43.32		
52				<u> </u>
53	Potential UCL to Use		Use 95% Student's-t UCL	35.28
54				L
55				***************************************
	A. Sucker			
\neg				
57				
57 58		General St	atistics	
	Number of Valid Observations		Number of Distinct Observations	8
58	Number of Valid Observations		/// / / / / / / / / / / / / / / / / /	8
58 60	Number of Valid Observations Raw Statistics		/// / / / / / / / / / / / / / / / / /	8
58 60 61)	8	Number of Distinct Observations	
58 60 61 62	Raw Statistics	5.74	Number of Distinct Observations Log-transformed Statistics	1.747
58 60 61 62 63	Raw Statistics Minimum	5.74 20.6	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data	1.747 3.025
58 60 61 62 63 64	Raw Statistics Minimum Maximum	5.74 20.6 12.42	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data	1.747 3.025 2.443
60 61 62 63 64 65	Raw Statistics Minimum Maximum Mean Median	5.74 20.6 12.42	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.747 3.025 2.443
60 61 62 63 64 65 66	Raw Statistics Minimum Maximum Mean Median	5.74 20.6 12.42 11.45 4.996	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.747 3.025 2.443
60 61 62 63 64 65 66 67	Raw Statistics Minimum Maximum Mean Median SD	5.74 20.6 12.42 11.45 4.996	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.747 3.025 2.443
60 61 62 63 64 65 66 67 68	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation	5.74 20.6 12.42 11.45 4.996	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.747 3.025 2.443
60 61 62 63 64 65 66 67 68	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation	5.74 20.6 12.42 11.45 4.996	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.747 3.025 2.443
58] 60 61 62 63 64 65 66 67 68 69 70	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness	5.74 20.6 12.42 11.45 4.996 0.402 0.331	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.747 3.025 2.443
58 60 61 62 63 66 67 68 69 70 71	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning:	5.74 20.6 12.42 11.45 4.996 0.402 0.331	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data	1.747 3.025 2.443
58 60 61 62 63 64 65 66 67 70 71 72	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning:	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only nough bootstra	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data	1.747 3.025 2.443
58 60 61 62 63 64 65 66 67 70 71 72 73	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning:	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only nough bootstra	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data	1.747 3.025 2.443
58] 60 61 62 63 64 65 66 67 70 71 72 73 74	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only nough bootstra	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions	1.747 3.025 2.443
58] 60 61 62 63 64 65 66 67 70 71 72 73 74 75	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only nough bootstra	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data	1.747 3.025 2.443
58] 60 61 62 63 64 65 66 67 70 71 72 73 74 75 76	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only nough bootstrate may not be receipt may not be receipt methods on	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions data sets having more than 10-15 observations.	1.747 3.025 2.443
58] 60 61 62 63 64 65 66 67 70 71 72 73 74	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only nough bootstra	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions data sets having more than 10-15 observations.	1.747 3.025 2.443
58] 60 61 62 63 64 65 66 67 70 71 72 73 74 75 76 77	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only mough bootstratemay not be receipt may not be receipt methods on Relevant UCL	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions data sets having more than 10-15 observations. Statistics Lognormal Distribution Test	1.747 3.025 2.443 0.429
58] 60 61 62 63 64 65 66 67 71 72 73 74 75 76 77	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only hough bootstratemay not be receipt may not be received may not be receipt may not be received may not be receipt may not be rece	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions data sets having more than 10-15 observations. Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic	1.747 3.025 2.443 0.429
58] 60 61 62 63 64 65 66 67 70 71 72 73 74 75 76	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only hough bootstratemay not be receipt may not be received may not be receipt may not be received may not be receipt may not be rece	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions data sets having more than 10-15 observations. Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	1.747 3.025 2.443 0.429
58] 60 61 62 63 64 65 66 67 70 71 72 73 74 75 76 77	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic	5.74 20.6 12.42 11.45 4.996 0.402 0.331 There are only hough bootstratemay not be receipt may not be received may not be receipt may not be received may not be receipt may not be rece	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data ap methods may be performed on this data set, eliable enough to draw conclusions data sets having more than 10-15 observations. Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic	1.747 3.025 2.443 0.429

Ш	Α	В		D	Е	F	G	Н	Ī	J	K		<u> </u>
83	•••••	A:	ssuming Nom			176	ļ	Ass	uming Logn	omai Distri		5. Jan 25.	
84					dent's-t UCL	15.77					95% H-U		
85		95%	UCLs (Adjus			· 				Chebyshev			
ا. ا	<u> </u>			95% Adjuste		i				Chebyshev			
) 			95% Mo	dified-t UCL	15.8			99%	Chebyshev	(MVUE) U	CL 31.41	
88			100 Pd 1 - 11 pg 1 1 1 pg 2 1 1 1 p 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1						* a annua et a currenten era desen * e 10 desen		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,
89			Gamma Dist			***				stribution	• • • • • • • • • • • • • • • • • • • •		
90				k star (bia	s corrected)	ĺ		Data appe	ar Normal a	t 5% Signifi	cance Lev	H	
91					Theta Star				4				
92					nu star		<u> </u>						
93			Approximate	•		[Nonparame				
94				ed Level of		l	***************************************				5% CLT U		
95			Ad	usted Chi S	quare Value	46.43					ackknife U		
96									95%	Standard B	·		
97				on-Darling T							otstrap-t U	į	
98				Darling 5% C		1				95% Hall's B	•		
99			_	v-Smirnov T						Percentile B	·		
100			olmogorov-Si			<u> </u>				95% BCA B	-	!	
101	Data	a appear Ga	mma Distribu	ted at 5% S	ignificance l	_evel				nebyshev(M			
102										nebyshev(M			
103		As	suming Gam						99% CI	nebyshev(M	ean, Sd) U	CL 30	
104				proximate G		1			~		.,,,,,		
105	***************************************		959	6 Adjusted C	iamma UCL	18.29							
106													
)		Potential U	CL to Use						Use 95% St	udent's-t U	CL 15.77	
108	·						···						
109	I Cuekes												
110	J. Sucker			***************************************					-,				
111	.,		*****			General	Statistics						
112			Numb	er of Valid O	hean/ations		Staustics		Numbo	r of Distinct	Observation	ne 8	
113				ei oi valia o			<u> </u>					13 0	
114			Raw St	atietice	~,,	_,	T		og-transfor	med Statisti	ice		
115	~		NOW OU		Minimum	1 00	İ		Log-uarision		n of Log Da	ta 0 688	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
116					Maximum		<u> </u>				n of Log Da		
117					Mean		 		·		an of log Da	!	
118					Median		ļ				D of log Da		
119						2.852	<u> </u>						
120				Coefficient	of Variation								
121					Skewness		<u> </u>						
122					J		1					1	
123											•=		
124				,	Warning:	There are o	nly 8 Values	in this data					
125			Note: It show	uld be noted	-		trap methods		rformed on t	his data set	<u>-</u>	·····	
126							reliable eno				······································		
')					,		-0		-		,	
-	<u> </u>	·····	he literature s	suggests to	use bootstra	p methods	on data sets	havina more	than 10-15	observatio	ns.		
129						.p	oow					··········	
130									·				

	Α	В	С	D	E	F	G	Н	ı	J		K	L
131						Relevant	UCL Statistics						
132			Normal Dist			To 000		L	ognormal			X	0.004
133				hapiro Wilk 1		l .					Vilk Test S		
1 ,8)	Doto once		napiro Wilk C		0.818		····		Shapiro V			<u>.</u>
1	<i>,</i>	Data appe	ar Normal at	5% Signinc	ance Level		_ L	Data appear	Lognorm	81 8t 5% S	signincano	ce Leve	
136		Λ.	suming Non	nal Distribut	ion			A o o :	uming Log	normal D	iotoibution		
137					dent's-t UCL	7 024		ASSI	uning cog	nomai D		H-UCL	11 2
138		0594	UCLs (Adju			7.324			059	% Chebys			
139		3370	OCLS (Adju	95% Adjust		7 554				% Chebys	··		
140					dified-t UCL			********		% Chebys	· · · · · · · · · · · · · · · · · · ·		
141						7.300						L) 00L	13.23
142			Gamma Dist	ribution Tes	. 				Data [Distributio			,
143			Carrilla Dis		s corrected)	2 5 1 6		Data appe				level	
144					Theta Star			- Com appo					
145					nu star	<u> </u>							
146			Approximat	e Chi Square					Nonparam	netric Stat	istics		
147				ted Level of		L						LT UCL	7.673
148			-	ljusted Chi S	-					95	% Jackkn		
149	······								95	% Standa			
150	~		Anders	son-Darling	est Statistic	0.438		*********	***************************************		Bootstra		
151 152				Darling 5% C		1					's Bootstr		
153			Kolmogoro	ov-Smirnov 1	est Statistic	0.201			95%	6 Percenti	le Bootstr	ap UCL	7.506
154		K	olmogorov-S	mirnov 5% C	critical Value	0.295				95% BC	A Bootstr	ap UCL	7.413
) ion	Data	appear Ga	mma Distribu	ited at 5% S	ignificance	Level		·	95% (Chebyshe	v(Mean, S	d) UCL	10.41
156	<i>J.</i>								97.5% (Chebyshe	v(Mean, S	d) UCL	12.31
157		As	suming Gam	ma Distribu	tion				99% (Chebyshe	v(Mean, S	d) UCL	16.05
158			95% A _l	pproximate C	Samma UCL	9.061					PR 24		
159	*******************************	. ,	959	% Adjusted C	amma UCL	10.1						***************************************	
160			~!/~	***************************************					. *****************************				
161			Potential L	JCL to Use						Use 95%	Student's	s-t UCL	7.924
162		enterent or on an enterent or on a sec											
163								***************************************					
164	SM Bass												
165													
166		, parent and a second					l Statistics						
167	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Numb	er of Valid C	bservations	8			Numb	er of Disti	nct Obser	vations	8
168													
169			Raw St	atistics		~ ·····		L	og-transfo				·
170					Minimum	<u> </u>		********	H##5-H##		mum of Lo		
171					Maximum						mum of Lo	_	
172						12.96					Mean of lo	-	
173					Median	l					SD of lo	og Data	0.64
174						7.281							
1 {)	, <u>.</u>		Coefficient	of Variation								
- ائتنا)				Skewness	0.163							
177													
178													

	Α	В	С	D	E	F	G	Н	1 .	J	K	L
179							only 8 Values		· <u>-</u>			
180		N				-	tstrap method				et,	
181				the resulting	g calculation	s may not l	oe reliable end	ough to draw	conclusion	S		
		The	literature	suggests to	use bootstr	ap method	s on data sets	having more	than 10-1	5 observation	ons.	
184		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							,			
185						Relevant	UCL Statistics					.,,
186		N		tribution Tes		ragendring of a red of deal of the second con-		Lo		istribution 7		,
187					Test Statistic					·	Test Statistic	
188					Critical Value	0.818					Critical Value	i *
189		Data appear	Nomal a	t 5% Signific	cance Level	***		Data appear	Lognormal	l at 5% Sigr	ificance Leve	l
190												
191		Assı	ıming Non	mal Distribu				Assı	ıming Logn	ormal Distr		
192					ident's-t UCL	17.83					95% H-UCL	į
193		95% U	CLs (Adju	sted for Ske	_	ang anggan gana ta na a saga sa		14 10 pa 14 10 1 10 4 10 pa 1444 ha 1 boo ha		•	(MVUE) UCL	
194					ted-CLT UCL) 					(MVUE) UCL	
195		44		95% M	odified-t UCL	17.86		***************************************	99%	Chebyshev	(MVUE) UCL	43.04
196												
197		G	amma Dis	tribution Tes						istribution		
198				k star (bi	as corrected)	1		Data appe	ar Normal a	at 5% Signif	icance Level	
199					Theta Star	<u> </u>			.,.,.,			,
200						33.34						
201		Α	• •	·	e Value (.05)	1			Nonparame	etric Statisti		Ţ
202			•		Significance	1					95% CLT UCL	1
)	···		Ac	djusted Chi S	Square Value	18.72					lackknife UCL	L
204						12-7			95%		Bootstrap UCL	1
205					Test Statistic	1					otstrap-t UCL	
206	***************************************			-	Critical Value	1					Bootstrap UCL	
207			_		Test Statistic						Bootstrap UCL	<u> </u>
208					Critical Value	1		•			Bootstrap UCL	1
209	Data a	ppear Gamr	na Distribi	uted at 5% S	Significance	Levei					lean, Sd) UCL	<u> </u>
210		A - :			<u></u>	<u> </u>					lean, Sd) UCL	L
211		Assu		nma Distribu		20.44			99% CI	iebysnev(M	lean, Sd) UCL	38.57
212				• •	Gamma UCL	1						
213			95	% Adjusted (Gamma UCL	23.08						
214			5	101 4. 11		<u> </u>				11 APR		43.00
215			Potential (JCL to Use						use 95% St	udent's-t UCL	17.83
216						*····			~~~			
217												

	A	В	С	ГБ	T E	l F	G	н	 	l J	Ικ	L				
218 R.	. Bass	<u></u>				 	——————————————————————————————————————	······································	 '			<u></u>				
219				,				***************************************								
220			.,,-,			General	Statistics									
	`		Numb	per of Valid (Observations	8			Numbe	r of Distinct C	Observations	8				
, -1)						<u>i </u>									
223			Raw S	tatistics				L	og-transfor	med Statistic	×					
224					Minimum	1.22					of Log Data	i e				
225					Maximum	16.8					of Log Data					
226					Mean	6.944					n of log Data	i				
227			**************************************		Median					SI	O of log Data	0.897				
228						5.011										
229				Coefficien	t of Variation											
230					Skewness	0.985										
231			***************************************									***************************************				
232																
233					•		nly 8 Values			·						
234						-	•	s may be per			ı 					
235				the resulting	calculation	s may not be	reliable end	ough to draw	conclusion	S 						
236																
237		11	ne literature	suggests to	use bootstr	ap methods	on data sets	having more	than 10-1	observation	1S.					
238						Dalaman	01 04-4-4-									
239			Namel Diet	ribution Tes		Relevant U	CL Statistics		anormal D	istribution Te						
240					τ Γest Statistic	0.02			•	Shapiro Wilk		0.000				
241	······································			•	ritical Value	ł		.,,,		hapiro Wilk (ļ				
(,))	Data annas		t 5% Signific		0.010		Data appear		•		!				
243		Data appea		ON OIGHING	ance Level			Data appear	Logiomio	ar o w organi	TOUR LEVE					
244		Ass	sumina Norr	mal Distribu	tion			Assu	ıming Loan	ormal Distrib	ution					
245					dent's-t UCL	10.3	 				95% H-UCL	22.82				
246		95%	UCLs (Adju	sted for Ske		1			95%	Chebyshev (
247			, ,		ed-CLT UCL	10.52				Chebyshev (
248					dified-t UCL	<u> </u>				Chebyshev (
						1	<u> </u>					L				
250										_						

	A	В	Т	C		T	D	Т-	E	F		G	Н	Т				J	ĭ	К			
251			G			tribut		est	_					•	Dat	ta Dis			-1				
252						k s	star (t	oias c	corrected	1.256		.,.,	Data app	ear	Nom	nal at	5% S	ignifi	canc	e Lev	⁄ei		
253								Ť	heta Sta	r 5.528											~ ~		
									nu sta	r 20.1												· · · · · · · · · · · · · · · · · · ·	
)			ppro	xima	te Chi	Squa	are V	alue (.05) 10.92				N	onpar	amet	ric St	atistic	: S				
256					Adjus	sted L	evel	of Sig	nificano	e 0.0195	5							9	5% C	LT U	JCL	9.858	
257					A	djuste	d Chi	Squa	are Valu	e 9.262						**********	g	5% J	ackkı	nife U	JCL	10.3	
258	······································		~~				********				 -					95%	Stand	ard B	ootst	rap U	JCL	9.619	
259			••••	A	nder	son-D	arling	Tes	t Statisti	c 0.309							95	% Во	otstra	ıp-t Ü	JCL	11.4	
260				Ande	rson-	Darlir	ng 5%	Criti	cal Valu	e 0.725						95	5% Ha	all's B	ootst	rap U	JCL	16.87	
261		,,.,		Koln	nogor	ov-Sr	nirnov	v Tes	t Statisti	c 0.209	 				9	95% P	ercer	itile B	ootst	гар U	JCL	9.888	
262			Kol	mogo	rov-S	Smirno	ov 5%	Criti	cal Valu	e 0.298						9	5% B	СА В	ootst	rap U	JCL	10.06	
263	Data	appear G	am	ma D	istrib	uted a	at 5%	Sign	ificance	Level					95	% Che	ebysh	ev(M	ean,	Sd) U	JCL	14.67	
264										1	·							ev(M					
265		7	Assı	ıming	Gan	nma [Distrib	oution										ev(M					
266				9	5% A	pprox	imate	Gan	nma UC	L 12.78													
									nma UC														
267						·																************	
268	,			Pote	ntial I	UCL t	o Use	 B		1,						U	se 95	% Sti	udent	's-t U	JCL	10.3	
269																		~~~~			l		
270 271												····-								···· -····			
	N Dace		·													.							*******
273							. *- * * , , • •								B. B. F. G								
274					· -					Ger	neral St	atistics					·····						
<u>. الدر،</u>	<u> </u>	***************************************			Num	ber of	Valid	Obs	ervation	s 6					Nu	mber	of Dis	stinct	Obse	rvatio	ons	6	
276	<i>)</i>									_1													
277				R	aw S	tatisti	cs				T			Lo	g-tran	sform	ned S	tatisti	CS				
278									Minimun	n 1.72				******		· · · · · · · · · · · · · · · · · · ·	Mi	nimur	n of L	.og D	ata	0.542	
79		·····						1	Maximun	n 17.6							Ма	ximur	n of L	.og D	ata	2.868	~
280									Mea	7.67								Mea	n of	log D	ata	1.685	
281									Media	n 4.2					***********			S	D of	log D	ata	0.926	
282						•••••			SI	6.855				• • • • • • • • • • • • • • • • • • • •	• •• •• • • • •								
283						Со	efficie	nt of	Variatio	0.894							••••••						
284		100 a 1000 a 4 1 0 50 50 50 50 50 70	****					S	kewnes	s 0.921			·							******	†		
285			******							_1													
286							·····-	~															
	Wa	eming: A	san	nple s	size c	of 'n' =	6 ma	ay no	t adequa	ate enou	igh to c	ompute me	eaningful ar	nd i	reliab	le tes	t stati	stics	and (estim	ates	i!	
287											-												
288				Ī	t is s	ugges	ted to	o coll	ect at le	ast 8 to	10 obse	ervations u	sing these	sta	tistica	al met	hods	!					
289		If	pos		4 · 100 · 100 · 100								ased samp						ults.				
290											•							,,					
291						····		·									·····			•••••			
292																							

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	A	В		D	ΙE	F	G	н	ı	Г	Ικ	L
293	· · · · · · · · · · · · · · · · · · ·				Warning:	There are	only 6 Values	in this data		<u> </u>		
294		N	lote: It sho	ould be note	d that even	though boo	tstrap method	s may be per	formed on t	his data se	ŧ,	
295	***************************************			the resulting	g calculation	s may not i	be reliable end	ough to draw	conclusions	3	,,,,,,	

.)‴		The	e literature	suggests to	use bootstr	ap method:	s on data sets	having more	than 10-15	observatio	ns.	
298					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
299						Relevant	UCL Statistics					
300		N	ormal Dist	tribution Tes	;t			Lo	ognormal Di	stribution T	est	
301			S	hapiro Wilk	Test Statistic	8.0			S	hapiro Wilk	Test Statistic	0.905
302			SI	hapiro Wilk (Critical Value	0.788			SI	napiro Wilk	Critical Value	0.788
303	Dε	ita appear	Normal a	t 5% Signific	cance Level			Data appear	Lognormal	at 5% Sign	ificance Leve	i
304											19 6 6 6 6 6 6 7 6 6 6 6 6 6 6 6 6 6 7 7 7 7 7 7 8 8 8 8	
305		Assı	uming Non	mal Distribu	tion			Assu	ıming Logno	rmal Distri	bution	
306				95% Stu	udent's-t UCL	13.31		. mi . i fin i . i decembro fee fee me fee a v. m. i f. m. i .			95% H-UCL	40.82
307		95% U	JCLs (Adju	sted for Ske	ewness)				95%	Chebyshev	(MVUE) UCL	19.91
308			4-14-11-11-11-11-11-11-11-11-11-11-11-11	95% Adjust	ted-CLT UCL	. 13.4			97.5%	Chebyshev	(MVUE) UCL	25.24
309				95% M	odified-t UCL	13.48			99%	Chebyshev	(MVUE) UCL	35.72
310												
311		G	amma Dis	tribution Tes					Data Dis	stribution		
312				k star (bia	as corrected)			Data appea	ar Normal a	t 5% Signifi	icance Level	
313					Theta Star	8.583						
314				~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	nu star	1						
315		Α			e Value (.05)	i			Nonparame			·
316			· · · · · · · · · · · · · · · · · · ·		Significance						5% CLT UCL	}
)			Ac	djusted Chi S	Square Value	3.062					ackknife UCL	
318	,								95%		lootstrap UCL	1
319					Test Statistic						otstrap-t UCL	
320					Critical Value						lootstrap UCL	1
321					Test Statistic					·	lootstrap UCL	
322					Critical Value	<u> </u>		·			lootstrap UCL	l :
323	Data app	ear Gam	na Distribu	uted at 5% S	Significance	Level				~~~~~	ean, Sd) UCL	.L
324				80	A*	1				~~~~	ean, Sd) UCL	1
325		Assu	-	nma Distribu		10.7			99% Ch	epysnev(M	ean, Sd) UCL	35.51
326					Gamma UCL	1				~~~		ļ
327			959	% Adjusted (Gamma UCL	26.86						
328			D-4	10) 4-71		<u> </u>				los OFO: C:	المحالم عالم	10.01
329		· · ·	Potential L	JCL to Use					·	use 95% Sti	udent's-t UCL	13.31

UPPER RIVER 2

	Α	В	С	D I	E	F	G	н	· · · · · · · · · · · · · · · · · · ·	J	К	T L
1	<u>i</u>			General UC					•	· · ·		
2		User Selec	cted Options	Upper River	2							
3			From File	M:\Sheboyga	en River\5_I	Post-Remedi	ation\2_Samp	oling Results	\5_Fish Mor	nitoring\Base	line Stats\Ul	R2\Fish UR 2
۲	<u> </u>	Fu	Il Precision	OFF								****
)	Confidence	Coefficient	95%								
6	Number	of Bootstrap	Operations	2000								
7		*************************	**************************************	.k								
8					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	·						
9	A. Carp											
10												·····
11						General	Statistics					
12			Numi	ber of Valid O	bservations	16			Numbei	of Distinct C	bservations	16
13	·····											
14			Raw S	tatistics			ļ !	i	.og-transfor	ned Statistic		
15					Minimum						of Log Data	1
16					Maximum						of Log Data	L
17						14.72	ļ				of log Data	
18					Median					SE	of log Data	1.24
19						15.04						
20				Coefficient								
21					Skewness	1.041						
22		·			.,						**** **********	************
23			s Belle d a classe and the Markhard and Lauter to the co-			Relevant U	CL Statistics			for a reconstruction — res — — — .		
24				tribution Test		-		L		stribution Te		
)			hapiro Wilk T		1				hapiro Wilk T		i
<u>∠</u> 6				hapiro Wilk C		0.887				hapiro Wilk C		L
27		Data not	t Normal at 5	% Significan	ce Level		ָ <u></u>	Data appear	Lognormal	at 5% Signif	icance Leve	el
28												
29		As	ssuming Non	mal Distributi				Assı	ıming Logno	omal Distrib		7.7.0.0
30	****				lent's-t UCL	21.31	ļ				95% H-UCL	
31		95%	UCLs (Adju	sted for Skev		r=:-=:				Chebyshev (I		[
32				95% Adjuste						Chebyshev (I		
33	***************************************			95% Mo	dified-t UCL	21.47		~	99% (Chebyshev (I	MVUE) UCL	71.49
34												

	A B C D E	F	GHIJK	L
35	Gamma Distribution Test		Data Distribution	-
36	k star (bias corrected)	0.811	Data appear Gamma Distributed at 5% Significance I	Level
37	Theta Star	18.14		
Ţ	nu star	25.96		
) Approximate Chi Square Value (.05)	15.35	Nonparametric Statistics	
40	Adjusted Level of Significance	0.0335	95% CLT UCL	20.9
41	Adjusted Chi Square Value	14.42	95% Jackknife UCL	21.31
42			95% Standard Bootstrap UCL	20.69
43	Anderson-Darling Test Statistic	0.385	95% Bootstrap-t UCL	23.25
44	Anderson-Darling 5% Critical Value	0.766	95% Hall's Bootstrap UCL	21.45
45	Kolmogorov-Smirnov Test Statistic	0.139	95% Percentile Bootstrap UCL	20.85
46	Kolmogorov-Smirnov 5% Critical Value	0.222	95% BCA Bootstrap UCL	21.25
47	Data appear Gamma Distributed at 5% Significance		95% Chebyshev(Mean, Sd) UCL	L
_		Τ	97.5% Chebyshev(Mean, Sd) UCL	
48	Assuming Gamma Distribution	<u> </u>	99% Chebyshev(Mean, Sd) UCL	l
49	95% Approximate Gamma UCL	24 89		
50	95% Adjusted Gamma UCL	L		
51		20.10		!
52	Potential UCL to Use	<u> </u>	Use 95% Approximate Gamma UCL	24.80
53	Totalida OOL to OSC		CSC SON Approximate Carrina CSE	24.00
54				
55	A. Sucker			
20	n. Odukei			
57				
		General	Statistics	-,,
58	Number of Valid Observations		Statistics Number of Dictinct Observations	o
58J	Number of Valid Observations		Statistics Number of Distinct Observations	8
50)		Number of Distinct Observations	8
60 61	Raw Statistics	8	Number of Distinct Observations Log-transformed Statistics	
60 61 62	Raw Statistics Minimum	3.95	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data	1.374
60 61 62 63	Raw Statistics Minimum Maximum	3.95 16.6	Log-transformed Statistics Minimum of Log Data Maximum of Log Data	1.374 2.809
60 61 62 63 64	Raw Statistics Minimum Maximum Mean	3.95 16.6 8.913	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.374 2.809 2.089
61 62 63 64	Raw Statistics Minimum Maximum Mean Median	3.95 16.6 8.913 8.48	Log-transformed Statistics Minimum of Log Data Maximum of Log Data	1.374 2.809 2.089
60 61 62 63 64	Raw Statistics Minimum Maximum Mean Median SD	3.95 16.6 8.913 8.48 4.189	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.374 2.809 2.089
60 61 62 63 64 65 66	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation	3.95 16.6 8.913 8.48 4.189 0.47	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.374 2.809 2.089
60 61 62 63 64 65 66	Raw Statistics Minimum Maximum Mean Median SD	3.95 16.6 8.913 8.48 4.189 0.47	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.374 2.809 2.089
60 61 62 63 64 65 66 67 68	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation	3.95 16.6 8.913 8.48 4.189 0.47	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data	1.374 2.809 2.089
61 62 63 64 65 66 67 68 69	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data	1.374 2.809 2.089
600 61 62 63 64 65 66 67 68 69	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning:	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data	1.374 2.809 2.089
600 611 622 633 644 655 666 677 688 699 70	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data anly 8 Values in this data Strap methods may be performed on this data set,	1.374 2.809 2.089
600 61 62 63 64 65 66 67 68 69 70 71	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data	1.374 2.809 2.089
560 561 562 563 564 565 566 577 588 599 700 711 722 73	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data anly 8 Values in this data Strap methods may be performed on this data set,	1.374 2.809 2.089
660 61 62 63 64 65 66 67 68 69 70 71 72 73	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even to the resulting calculations	3.95 16.6 8.913 8.48 4.189 0.47 0.73 There are of hough boots	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data anly 8 Values in this data Strap methods may be performed on this data set,	1.374 2.809 2.089
660 61 62 63 64 65 66 67 68 69 70 71 72 73 74	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even to the resulting calculations	3.95 16.6 8.913 8.48 4.189 0.47 0.73 There are of hough boots	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data anly 8 Values in this data strap methods may be performed on this data set, e reliable enough to draw conclusions	1.374 2.809 2.089
660 61 62 63 64 65 66 67 68 69 70 71 72 73 74	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even to the resulting calculations	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data anly 8 Values in this data strap methods may be performed on this data set, e reliable enough to draw conclusions	1.374 2.809 2.089
60 61 62 63 64 65 66 67 68 69 71 72 73 74 75 76 77	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even to the resulting calculations	3.95 16.6 8.913 8.48 4.189 0.47 0.73	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data strap methods may be performed on this data set, e reliable enough to draw conclusions on data sets having more than 10-15 observations.	1.374 2.809 2.089
660 661 662 663 664 665 666 667 668 669 771 772 773 774 775 776 777	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even to the resulting calculations The literature suggests to use bootstra	3.95 16.6 8.913 8.48 4.189 0.47 0.73 There are or hough boots a may not be ap methods	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Maximum of Log Data Mean of log Data SD of log Data SD of log Data anily 8 Values in this data strap methods may be performed on this data set, e reliable enough to draw conclusions On data sets having more than 10-15 observations.	1.374 2.809 2.089 0.481
60 61 62 63 64 65 66 67 68 69 71 72 73 74 75 76 77	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstrate Normal Distribution Test	3.95 16.6 8.913 8.48 4.189 0.47 0.73 There are of hough boots is may not be ap methods	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data strap methods may be performed on this data set, e reliable enough to draw conclusions on data sets having more than 10-15 observations. CL Statistics Lognormal Distribution Test	1.374 2.809 2.089 0.481
60 61 62 63 64 65 66 67 71 72 73 74 75 76 77 78	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even to the resulting calculations The literature suggests to use bootstrate Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	3.95 16.6 8.913 8.48 4.189 0.47 0.73 There are of hough boots is may not be ap methods	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data strap methods may be performed on this data set, e reliable enough to draw conclusions on data sets having more than 10-15 observations. CL Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	1.374 2.809 2.089 0.481
58 60 61 62 63 64 65 66 67 70 71 72 73 74 75 76 77 78 81 83 83 83 83 83 83 8	Raw Statistics Minimum Maximum Mean Median SD Coefficient of Variation Skewness Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstrate Normal Distribution Test Shapiro Wilk Test Statistic	3.95 16.6 8.913 8.48 4.189 0.47 0.73 There are of hough boots is may not be ap methods	Number of Distinct Observations Log-transformed Statistics Minimum of Log Data Mean of log Data SD of log Data SD of log Data strap methods may be performed on this data set, e reliable enough to draw conclusions on data sets having more than 10-15 observations. CL Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic	1.374 2.809 2.089 0.481

	Α	В	С	D	E	F	G	Н		J	К	L	
83		A:	ssuming Nom			T-2-50		Ass	uming Logno	ormal Distrib		140.00	
84		050			lent's-t UCL	11./2					95% H-UCL	<u> </u>	
85		95%	UCLs (Adjus		•	124 70				Chebyshev (
, ,	<u> </u>			95% Adjuste		[<u> </u>			Chebyshev (L	
 	<i>'</i>			95% MO	dified-t UCL	11.78			99%	Chebyshev (MVUE) UCL	24.16	
88									D-1- D:				
89			Gamma Dist			10.054	Data Distribution Data appear Normal at 5% Significance Level						
90		***************************************		k star (bia:	s corrected) Theta Star	<u> </u>		Data appe	ar Normai a	t 3% Signinc	ance Level		
91	·····	* *************************************	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		nu star	 							
92			Approximate	Chi Sauara		İ			Nonnoromo	tric Statistics			
93			-	ed Level of S		1					, % CLT UCL	11 35	
94		*· ***********************************		usted Chi So		l					ckknife UCL	L	
95	,,		Au,	usted Crit St		54.43			05%	Standard Bo		i	
96			Andere	on-Darling T	act Statistic	0.16					tstrap-t UCL		
97				Darling 5% C			ļ			95% Hall's Bo		l	
98		***************************************		v-Smirnov T		i	<u> </u>	**************************************		Percentile Bo	·	<u>L</u>	
99			olmogorov-Sr			İ	!			95% BCA Bo	·	i	
100	Data		mma Distribu			<u> </u>				ebyshev(Me		i	
101					9	 				ebyshev(Me		l	
102		As	suming Gam	ma Distribut	ion	<u> </u>				ebyshev(Me		L	
103			_	proximate G		12.64							
104 105	-,	***** ,		6 Adjusted G		l							
106												ļ <u>.</u>	
I roof	7		Potential U	CL to Use		L				Jse 95% Stu	dent's-t UCL	11.72	
108	.)						I					<u> </u>	
109	.,,		· · · · · · · · · · · · · · · · · ·										
	J. Sucker						***************************************						
111													
112							Statistics						
113			Numb	er of Valid O	bservations	8			Numbe	r of Distinct C	bservations)	8	
114							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				,,,.,,		
115			Raw St	atistics					.og-transfor	med Statistic		v = 11	
116					Minimum						of Log Data		
117		- fre- 126 lay			Maximum				,,,=,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		of Log Data		
118					Mean						of log Data	i	
119					Median					SE	of log Data	0.43	
120						2.961							
121				Coefficient	of Variation								
122					Skewness	0.584				····			
123								···					
124				·····		FL	L-014-1	- all					
125			Alaka 12 f		_	There are on				bia data			
126		,	Note: It sho										
, '	}			ne resulting	Calculations	may not be	I SHADIS SUO	uyıı w araw	Conclusions	·····		····	
	ノ	······	ha litaratura	ningonie ie	una heatet	n maihada	n deta cat-	havina	than 10 15	observation			
129			he literature s	ouggesis to t	use DOOLSITE	thenloas (ni uata sets	navily more	- uiaii 10-13	ODSCIVATION			
130					 								

Normal Distribution Test		Α	В	С	D	E	F	G	Н	[J	К	L
Shapiro Wilk Test Statistic 0.881	131			Al 15:			Relevant	UCL Statistics					
Shapiro Wilk Critical Value 0.816	132						10 0 001		L				0.007
Data sppear Normal at 5% Significance Level Data sppear Lognormal at 5% Significance Level	133												<u> </u>
Assuming Normal Distribution Assuming Lognormal Distribution)	Data anno				<u>i</u>		Dete ennee				
Assuming Normal Distribution Assuming Lognormal Distribution S95% Hauck 803 95% Chebyshev (MVUE) UCL 1.137 139 95% LUCLs (Adjusted for Skowness) 95% Chebyshev (MVUE) UCL 1.137 140 95% Adjusted-CLT UCL 8.73 97.5% Chebyshev (MVUE) UCL 17.21 141 95% Modified-I UCL 8.839 99% Chebyshev (MVUE) UCL 17.21 142	1	···-					7I						
95% Students-t UCL 8.803 95% H-UCL 9.929 1339 95% UCLs (Adjusted for Skewness) 95% Chebyshev (MVUE) UCL 11.37 140 95% Modified-t UCL 8.839 95% Chebyshev (MVUE) UCL 17.21 141 95% Modified-t UCL 8.839 95% Chebyshev (MVUE) UCL 17.21 142 143 Gamma Distribution Test Data Distribution Data appear Normal at 5% Significance Level 17.21 144 K star (Dias corrected) 4.013 Data appear Normal at 5% Significance Level 17.21 146 Name of Part of			Ass	suming Nor	mal Distrib	oution	-,,,,,	Assuming Lognormal Distribution					
139	\Box						CL 8.803						
150			95%	UCLs (Adju	sted for SI	kewness)		· ·					
141							CL 8.773						
142					95% I	Modified-t UC	CL 8.839			99%	Chebyshev	(MVUE) UCL	17.21
	\Box					en en mero en mero e en el mero e en en en en en en en en en en en en e	J						<u>.</u>
144				Gamma Dis	tribution T	est	,,			Data D	istribution		
Theia Star 1.7	144				k star (l	oias correcte	d) 4.013		Data appe	ar Normal	at 5% Signifi	cance Level	
146						Theta St	ar 1.7	· · ·		*****	***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Approximate Chi Square Value (0.5) 46.77 Nonparametric Statistics S-542													
149	147			Approxima	te Chi Squ	are Value (.0	5) 46.77			Nonparam			
150	148					-				,,,,			
Section	149			Ad	djusted Ch	Square Val	ue 43.03						
152	150			1- Ad 44 Bahi 44a - 174 4anin Baha 4a - 4		_,				959			1
152	151					_							1
Kolmogorov-Smirnov 5% Critical Value 0.295 95% BCA Bootstrap UCL 8.675	152				_		i					·	
Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Mean, Sd) UCL 11.38 97.5% Chebyshev(Mean, Sd) UCL 13.36 157 Assuming Gamma Distribution 99% Chebyshev(Mean, Sd) UCL 17.24 158 95% Approximate Gamma UCL 9.362 159 95% Adjusted Gamma UCL 10.18 160 161 Potential UCL to Use Use 95% Student's-t UCL 8.803 162 163 164 165 166 166 167 168 169	153			_					.,,	95%		·	<u>i</u>
156 97.5% Chebyshev(Mean, Sd) UCL 13.36 157	154											-	i .
156) Data	a appear Gan	nma Distrib	uted at 5%	Significano	e Level						i
158	156		·										l
156 95% Adjusted Gamma UCL 10.18	157		ASS	_			N 0 262			99% 0	nebysnev(Me	ean, Sa) UCL	17.24
160	158						1						
161					76 Adjustet	J Gamma OC	JL 10.16						ļ
162				Potential I	ICI to lise						Use 95% Str	ident's-t UCI	8 803
163 164 SM Bass				·····								ACING COOL	
SM Bass SM B													
195 196 197 198		SM Bass											
166 Number of Valid Observations 8 Number of Distinct Observations 8 168	104												
Number of Valid Observations Number of Distinct Observations Number					µ		Gener	al Statistics					
168 169 Raw Statistics Log-transformed Statistics 170 Minimum 3.12 Minimum of Log Data 1.138 171 Maximum 33.5 Maximum of Log Data 2.4 172 Mean of log Data 2.4 173 Median 12 SD of log Data 2.4 174 SD 11.11 Coefficient of Variation 0.765 Skewness 0.965				Numl	per of Valid	Observation	ns 8		,	Numbe	er of Distinct	Observations	8
Raw Statistics Log-transformed Statistics								1					i
170 Minimum of Log Data 1.138 171 Maximum of Log Data 3.512 172 Mean of log Data 2.4 173 Median 12 SD of log Data 0.82 174 SD 11.11 Coefficient of Variation 0.765 Skewness 0.965			······	Raw S	tatistics				L	.og-transfo	rmed Statisti	cs	
171 Maximum decorate 33.5 Maximum of Log Data decorate 3.512 172 Mean of log Data decorate 2.4 173 Median decorate 12 SD of log Data decorate 174 SD decorate 11.11 Coefficient of Variation decorate 0.765 Skewness decorate 0.965	-					Minimu	m 3.12		***************************************	*************	Minimun	n of Log Data	1.138
172 Mean of log Data 2.4 173 Median 12 SD of log Data 0.82 174 SD of log Data 0.82 175 Coefficient of Variation 0.765 Image: Coefficient of Variation of Va						Maximu	m 33.5				Maximun	n of Log Data	3.512
Median 12 SD of log Data 0.82 174 SD 11.11 Coefficient of Variation 0.765 Skewness 0.965 Skewness 0.965						Mea	n 14.52				Mea	in of log Data	2.4
SD 11.11						Media	n 12				S	D of log Data	0.82
Coefficient of Variation 0.765 Skewness 0.965 177	174					S	D 11.11						,
177		```			Coefficie	nt of Variation	on 0.765						
)				Skewnes	ss 0.965						
	177							.,					
1/8	178			***************************************		,41,							

	A	В	С	D	Ē	l F	I G I	Н		J	Ιк	T
179						There are o	nly 8 Values i		<u> </u>	L		
180			Note: It sho	ould be note	d that even t	hough boots	trap methods	s may be pe	rformed on t	his data set	,	
181				the resulting	calculation	s may not be	e reliable eno	ugh to draw	conclusions	3		
	``											
)	Tł	he literature	suggests to	use bootstn	ap methods	on data sets	having more	than 10-15	observation	ıs.	
184							4 5 4 5 4 5 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					~~~~~
185						Relevant U	CL Statistics					
186			Normal Dist	ribution Tes	<u> </u>		 	Lo	ognormal Di	stribution Te	est	
187			SI	hapiro Wilk 1	est Statistic	0.874	·····		s	hapiro Wilk	Test Statistic	0.965
188			Sh	napiro Wilk C	Critical Value	0.818			SI	hapiro Wilk (Critical Value	0.818
189		Data appea	ar Normal at	5% Signific	ance Level			Data appear	Lognormal	at 5% Signi	ficance Leve	İ
190					***************************************	***************************************	<u> </u>					H
191		Ass	suming Non					Assı	uming Logno	ormal Distrib	ution	
192				95% Stu	dent's-t UCL	21.96					95% H-UCL	
193		95%	UCLs (Adju:	sted for Ske	wness)	<i></i>			95% (Chebyshev (MVUE) UCL	33.57
194			***************************************	95% Adjuste	ed-CLT UCL	22.42			97.5%	Chebyshev (MVUE) UCL	41.74
195				95% Mo	dified-t UCL	22.19			99% (Chebyshev (MVUE) UCL	57.81
196												
197		(Gamma Dist	ribution Tes	t				Data Dis	stribution		
198				k star (bia	s corrected)			Data appe	ar Normal at	t 5% Signific	ance Level	
199		,			Theta Star	<u></u>						
200		·····	·		nu star	ļ		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
201					e Value (.05)	1			Nonparame	tric Statistics		T
202			-		Significance	<u> </u>	ļ				% CLT UCL	1
)		Ad	justed Chi S	quare Value	9.866					ckknife UCL	<u> </u>
204	······································	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							95%	Standard Bo		I
205					est Statistic	<u> </u>					tstrap-t UCL	<u> </u>
206				_	critical Value		İ			5% Hall's Bo	·	ł
207					est Statistic		1			Percentile Bo 95% BCA Bo	-	!
208	Date	appear Gan			ritical Value	İ				ebyshev(Me	•	
209	Data	appear Oan	DISU1DU	at 376 S	ignincance i	-evei	<u> </u>	.,		ebysnev(Me ebyshev(Me	•	
210		Δος	uming Gam	ma Dietribut	ion					ebyshev(Me		l
211		A33			amma UCL	26 31			33 /0 UII	CDySHEV(IVIE	an, ou, oct	00.01
212					Samma UCL							
213						50.5						<u> </u>
214			Potential U	ICL to Use			<u> </u> 		T	Jse 95% Stu	dent's-t UCI	21.96
215							<u> </u>					
216												
217	R. Bass											
210	Dudo								.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
219					<u> </u>							

	A B C D E	F	G H I J K	Ĺ				
220			al Statistics	****				
221	Number of Valid Observations	8	Number of Distinct Observations	8				
222								
1000/07	Raw Statistics	ra	Log-transformed Statistics					
, 4	Minimum		Minimum of Log Data					
225	Maximum		Maximum of Log Data					
226	Mean		Mean of log Data					
227	Median		SD of log Data	0.887				
228		2.935						
229	Coefficient of Variation							
230	Skewness	0.544						
231			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
232	Western 1	Th	and O Volume in this date					
233			only 8 Values in this data					
234		-	tstrap methods may be performed on this data set, be reliable enough to draw conclusions					
235	ure resulting calculations	110t l	oe renable ellough to diaw conclusions	-				
236	The literature suggests to use bootstw	an method	s on data sets having more than 10-15 observations.					
237	The illerature suggests to use two is to		s on data sets having more than 10-13 observations.					
238		Relevant I	UCL Statistics					
239	Normal Distribution Test		Lognormal Distribution Test					
240	Shapiro Wilk Test Statistic	0.898	Shapiro Wilk Test Statistic 0.891					
241	Shapiro Wilk Critical Value		Shapiro Wilk Critical Value 0.818					
242	Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level					
243				······				
<i>)</i> Janel	Assuming Normal Distribution		Assuming Lognormal Distribution					
245 246	95% Student's-t UCL	6.232	95% H-UCL	13.76				
247	95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	10.76				
248	95% Adjusted-CLT UCL	6.186	97.5% Chebyshev (MVUE) UCL	13.47				
249	95% Modified-t UCL	6.265	99% Chebyshev (MVUE) UCL	18.8				
250		***************************************						
251	Gamma Distribution Test		Data Distribution					
252	k star (bias corrected)	1.291	Data appear Normal at 5% Significance Level					
253	Theta Star	3.304						
254	nu star	20.66						
255	Approximate Chi Square Value (.05)	11.34	Nonparametric Statistics					
256	Adjusted Level of Significance	0.0195	95% CLT UCL	5.973				
257	Adjusted Chi Square Value	9.642	95% Jackknife UCL	6.232				
258			95% Standard Bootstrap UCL	5.847				
259	Anderson-Darling Test Statistic	0.372	95% Bootstrap-t UCL	7.051				
260	Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	8.329				
261	Kolmogorov-Smirnov Test Statistic	0.171	95% Percentile Bootstrap UCL	5.936				
262	Kolmogorov-Smirnov 5% Critical Value	0.298	95% BCA Bootstrap UCL	6.027				
263	Data appear Gamma Distributed at 5% Significance L	evel .	95% Chebyshev(Mean, Sd) UCL	8.789				
		** ** ** * * * **** * * * ****** ** *	97.5% Chebyshev(Mean, Sd) UCL	10.75				
, ,)	Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.59				
266	95% Approximate Gamma UCL	7.773		***************************************				
267	95% Adjusted Gamma UCL	9.142						
268								
269	Potential UCL to Use		Use 95% Student's-t UCL	5.232				
703			<u></u>					

MIDDLE RIVER 1

	A B C	D E	for Full Date 6	G H I J K	LL
		General UCL Statistics	TOT Full Data S	Sets	
2	User Selected Options				
3		L	emediation\3 F	PR Monitoring Activities\3 Fish Monitoring\Fish Sampling Data	\Baseline\B
' \		OFF			
_	1	95%	==		
6	Number of Bootstrap Operations	2000			
7					
8					
9	A. Carp				
10			616	D-6-4	
11	Alk		General S		Ta
12	Nume	per of Valid Observations	8	Number of Distinct Observations	8
13	Down Co			Los Amariana de Charlesia	
14	Naw 5	tatistics Minimum	1120	Log-transformed Statistics	0.047
15		Maximum	1	Minimum of Log Data Maximum of Log Data	ţ
16		Maximum	!	Mean of log Data Mean of log Data	1
17		Median	i i	Mean of log Data SD of log Data	
18			7.431	SU OI TOG DATA	U.334
19		Coefficient of Variation			
20		Skewness	.1		
21					l
22					
23		Warning:	There are only	v 8 Values in this data	
	Note: It sho			y 8 Values in this data ap methods may be performed on this data set,	
23 24	1	ould be noted that even t	though bootstr	y 8 Values in this data ap methods may be performed on this data set, reliable enough to draw conclusions	
23 24	1	ould be noted that even t	though bootstr	ap methods may be performed on this data set,	
23 24 2. 27		ould be noted that even t the resulting calculation	though bootstr	ap methods may be performed on this data set,	
23 24		ould be noted that even t the resulting calculation	though bootstr	rap methods may be performed on this data set, reliable enough to draw conclusions	
23 24 27 28 29		ould be noted that even t the resulting calculation	though bootstr	rap methods may be performed on this data set, reliable enough to draw conclusions on data sets having more than 10-15 observations.	
23 24 27 28 29 30	The literature	ould be noted that even t the resulting calculation	though bootstr s may not be r ap methods or	rap methods may be performed on this data set, reliable enough to draw conclusions on data sets having more than 10-15 observations.	
23 24 27 28 29 30 31	The literature Normal Dist	ould be noted that even t the resulting calculation suggests to use bootstr	though bootstr s may not be r ap methods or Relevant UCI	rap methods may be performed on this data set, reliable enough to draw conclusions In data sets having more than 10-15 observations.	0.66
23 24 27 28 29 30	The literature Normal Dist	could be noted that even to the resulting calculation suggests to use bootstrand	though bootstr is may not be r ap methods or Relevant UCI	rap methods may be performed on this data set, reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test	
23 24 27 28 29 30 31 32	Normal Dist	the resulting calculation suggests to use bootstr ribution Test hapiro Wilk Test Statistic	though bootstr is may not be r ap methods or Relevant UCI	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic	
23 24 27 28 29 30 31 32 33	Normal Dist	the resulting calculation suggests to use bootstr ribution Test hapiro Wilk Test Statistic	though bootstr is may not be r ap methods or Relevant UCI	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	
23 24 27 28 29 30 31 32 33 34	Normal Dist	the resulting calculation suggests to use bootstr ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value % Significance Level	though bootstr is may not be r ap methods or Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	
23 24 27 28 29 30 31 32 33 34 35	Normal Dist Si Sh Data not Normal at 5	the resulting calculation suggests to use bootstr ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value	though bootstr is may not be r ap methods or Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL	0.818
23 24 27 28 29 30 31 32 33 34 35 36	Normal Dist Si St Data not Normal at 5 Assuming Normal 95% UCLs (Adjusted to the content of	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value Significance Level mal Distribution 95% Student's-t UCL sted for Skewness)	though bootstras may not be represented by the representation of t	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL	0.818 11.93 8.676
23 24 27 28 29 30 31 32 33 34 35 36 37	Normal Dist Si St Data not Normal at 5 Assuming Normal 95% UCLs (Adjusted to the content of	the resulting calculation suggests to use bootstr ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value S Significance Level mal Distribution 95% Student's-t UCL	though bootstras may not be represented by the representation of t	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL	0.818 11.93 8.676
23 24 27 28 29 30 31 32 33 34 35 36 37 38	Normal Dist Si St Data not Normal at 5 Assuming Normal 95% UCLs (Adjusted to the content of	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value Significance Level mal Distribution 95% Student's-t UCL sted for Skewness)	though bootstriss may not be represented by the representation of	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL	0.818 11.93 8.676 10.91
23 24 27 28 29 30 31 32 33 34 35 36 37 38	Normal Dist Si St Data not Normal at 5 Assuming Normal 95% UCLs (Adjusted to the content of	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value '% Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL	though bootstriss may not be represented by the representation of	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL	0.818 11.93 8.676 10.91
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40	Normal Dist Si St Data not Normal at 5 Assuming Normal 95% UCLs (Adjusted to the content of	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value S Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL	though bootstras may not be represented by the representation of t	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL	0.818 11.93 8.676 - 10.91 15.3
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41	Normal Distriction Signature Normal Distriction Signature Striction Signature Data not Normal at 5 Assuming Normal Signature 95% UCLs (Adjusted)	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value % Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL cribution Test k star (bias corrected)	though bootstras may not be rap methods or Relevant UCI 0.473 0.818 9.417 11.55 9.852	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL	0.818 11.93 8.676 - 10.91 15.3
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42	Normal Distriction Signature Normal Distriction Signature Striction Signature Data not Normal at 5 Assuming Normal Signature 95% UCLs (Adjusted Signature)	the resulting calculation suggests to use bootstr ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value % Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL ribution Test k star (bias corrected) Theta Star	## sthough bootstr ## s may not be r ## ap methods or ## Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL	0.818 11.93 8.676 - 10.91 15.3
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	Normal Dist Si St Data not Normal at 5 Assuming Normal St 95% UCLs (Adjust Gamma Dist	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value % Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL cribution Test k star (bias corrected) Theta Star nu star	## sthough bootstr ## s may not be r ## ap methods or ## Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL	0.818 11.93 8.676 - 10.91 15.3
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	Normal Dist Si Sh Data not Normal at 5 Assuming Norm 95% UCLs (Adjust Gamma Dist	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value '% Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL ribution Test k star (bias corrected) Theta Star nu star e Chi Square Value (.05)	## sthough bootstr ## s may not be r ## ap methods or ## Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 97.5% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Data Distribution Data do not follow a Discernable Distribution (0.05) Nonparametric Statistics	0.818 11.93 8.676 - 10.91 15.3
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	Normal Dist Si St Data not Normal at 5 Assuming Norm 95% UCLs (Adjust Gamma Dist Approximate Adjust	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value S Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL ribution Test k star (bias corrected) Theta Star nu star e Chi Square Value (.05) ted Level of Significance	## sthough bootstr ## s may not be r ## ap methods or ## Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 97.5% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Data Distribution Data do not follow a Discernable Distribution (0.05) Nonparametric Statistics	0.818 11.93 8.676 10.91 15.3
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	Normal Dist Si St Data not Normal at 5 Assuming Norm 95% UCLs (Adjust Gamma Dist Approximate Adjust	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value '% Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL ribution Test k star (bias corrected) Theta Star nu star e Chi Square Value (.05)	## sthough bootstr ## s may not be r ## ap methods or ## Relevant UCI 0.473	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 97.5% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Data Distribution Data do not follow a Discernable Distribution (0.05) Nonparametric Statistics 95% CLT UCL 95% Jackknife UCL	0.818 11.93 8.676 - 10.91 15.3 6) 8.761 9.417
23 24 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	Normal Dist Si St Data not Normal at 5 Assuming Norm 95% UCLs (Adjust Gamma Dist Approximate Adjust	the resulting calculation suggests to use bootstra ribution Test hapiro Wilk Test Statistic hapiro Wilk Critical Value S Significance Level mal Distribution 95% Student's-t UCL sted for Skewness) 95% Adjusted-CLT UCL 95% Modified-t UCL ribution Test k star (bias corrected) Theta Star nu star e Chi Square Value (.05) ted Level of Significance	nethough bootstras may not be research under the re	reliable enough to draw conclusions In data sets having more than 10-15 observations. L Statistics Lognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data not Lognormal at 5% Significance Level Assuming Lognormal Distribution 95% H-UCL 95% Chebyshev (MVUE) UCL 97.5% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Data Distribution Data do not follow a Discernable Distribution (0.05) Nonparametric Statistics	0.818 11.93 8.676 10.91 15.3 8.761 9.417 8.431

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51	Anderson-Darling 5% Critical Value				95% Hall's Bootstrap UCL	40.14		
52	Kolmogorov-Smirnov Test Statistic	0.437			95% Percentile Bootstrap UCL	9.643		
53	Kolmogorov-Smirnov 5% Critical Value	0.302			95% BCA Bootstrap UCL	12.25		
1	Data not Gamma Distributed at 5% Significance Lev	vel			95% Chebyshev(Mean, Sd) UCL	15.89		
•	7				97.5% Chebyshev(Mean, Sd) UCL	20.85		
- L	Assuming Gamma Distribution	L			99% Chebyshev(Mean, Sd) UCL			
56	95% Approximate Gamma UCL	10.69						
57	95% Adjusted Gamma UCL							
58	00%, djeset delime 002							
59	Potential UCL to Use				Use 95% Chebyshev (Mean, Sd) UCL	15 90		
60	Potential OCL to Use				Ose 35% Chebyshev (Weah, 3d) OCE	13.03		
61	A. Sucker							
62	A. Sucker							
63			1.04-4-4					
64	Nacha Well-Observed		l Statistics		N	r =		
65	Number of Valid Observations				Number of Distinct Observations	/		
66								
67	Raw Statistics				og-transformed Statistics			
68	Minimum				Minimum of Log Data	L		
69	Maximum				Maximum of Log Data	i		
70	Mean				Mean of log Data	ļ		
71	Median		<u> </u>		SD of log Data	0.663		
	SD	5.861						
72	Coefficient of Variation	0.669						
72 73								
$\overline{}$	Skewness	1.209						
73	Skewness	1.209						
73 74	Skewness	1.209						
73 74	Skewness Warning: A sample size of 'n' = 7 may not adequat		o compute me	aningful an	d reliable test statistics and estimate	s!		
73 74 /\ 77)		o compute me	aningful an	d reliable test statistics and estimate	s!		
73 74)	te enough to				s!		
73 74 77 78 79	Warning: A sample size of 'n' = 7 may not adequat	te enough to	bservations u	sing these s	statistical methods!	s!		
73 74 77 78 79 80	Warning: A sample size of 'n' = 7 may not adequat	te enough to	bservations u	sing these s	statistical methods!	s!		
73 74 77 78 79 80 81	Warning: A sample size of 'n' = 7 may not adequat	te enough to	bservations u	sing these s	statistical methods!	s!		
73 74 77 78 79 80 81 82	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua	e enough to st 8 to 10 o ality Object	bservations u	sing these s	statistical methods!	s!		
73 74 77 78 79 80 81 82 83	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua	st 8 to 10 o ality Object	observations ustives (DQO) be	sing these s ased sampl n this data	statistical methods! e size and analytical results.	s!		
73 74 77 78 79 80 81 82 83 84	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua	st 8 to 10 o ality Object There are o	observations us tives (DQO) be only 7 Values i strap methods	sing these s ased sample on this data a may be pe	statistical methods! e size and analytical results. rformed on this data set,	s!		
73 74 77 78 79 80 81 82 83 84 85	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua Warning: 1	st 8 to 10 o ality Object There are o	observations us tives (DQO) be only 7 Values i strap methods	sing these s ased sample on this data a may be pe	statistical methods! e size and analytical results. rformed on this data set,	s!		
73 74 77 78 79 80 81 82 83 84 85 86	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua Warning: 1	st 8 to 10 o ality Object There are o nough boots	observations us tives (DQO) be only 7 Values i estrap methods se reliable eno	sing these s ased sample on this data is may be pe	e size and analytical results. erformed on this data set,	s!		
73 74 77 78 79 80 81 82 83 84 85 86 87	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua Warning: 1 Note: It should be noted that even the resulting calculations	st 8 to 10 o ality Object There are o nough boots	observations us tives (DQO) be only 7 Values i estrap methods se reliable eno	sing these s ased sample on this data is may be pe	e size and analytical results. erformed on this data set,	s!		
73 74 77 78 79 80 81 82 83 84 85 86 87	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Qua Warning: 1 Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	st 8 to 10 o ality Object There are o mough boots may not b	observations us tives (DQO) be only 7 Values i estrap methods se reliable eno	sing these s ased sample on this data is may be pe	e size and analytical results. erformed on this data set,	s!		
73 74 77 78 79 80 81 82 83 84 85 86 87 88	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Qua Warning: 1 Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	st 8 to 10 o ality Object There are o mough boots may not b	observations us tives (DQO) be only 7 Values i strap methods se reliable eno-	sing these s ased sample in this data is may be pe ugh to draw	e size and analytical results. erformed on this data set,	s!		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Qua Warning: The literature suggests to use bootstrae Normal Distribution Test	st 8 to 10 o ality Object There are o nough boots may not b	observations us tives (DQO) be only 7 Values i strap methods se reliable eno-	sing these s ased sample in this data is may be pe ugh to draw	e size and analytical results. erformed on this data set, conclusions e than 10-15 observations.			
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Que Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic	st 8 to 10 o ality Object There are o hough boots may not be p methods Relevant U 0.881	observations us tives (DQO) be only 7 Values i strap methods se reliable eno-	sing these s ased sample in this data is may be pe ugh to draw	e size and analytical results. offormed on this data set, conclusions e than 10-15 observations. ognormal Distribution Test Shapiro Wilk Test Statistic	0.942		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Qua Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	st 8 to 10 o ality Object There are o hough boots may not be p methods Relevant U 0.881	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. Informed on this data set, Inconclusions In the than 10-15 observations. In the conclusion of the conclu	0.942		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Que Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic	st 8 to 10 o ality Object There are o hough boots may not be p methods Relevant U 0.881	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. offormed on this data set, conclusions e than 10-15 observations. ognormal Distribution Test Shapiro Wilk Test Statistic	0.942		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Qua Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level	st 8 to 10 o ality Object There are o hough boots may not be p methods Relevant U 0.881	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. e size and analytical results. erformed on this data set, er conclusions e than 10-15 observations. ognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value er Lognormal at 5% Significance Level	0.942		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Que Warning: 1 Note: It should be noted that even the resulting calculations The literature suggests to use bootstrate Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution	st 8 to 10 o ality Object There are o hough boots may not be p methods Relevant U 0.881	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. offormed on this data set, conclusions e than 10-15 observations. ognormal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value r Lognormal at 5% Significance Level	0.942		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at lease If possible compute and collect Data Qua Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL	st 8 to 10 o ality Object There are o hough boots may not be p methods Relevant U 0.881	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. Informed on this data set, Inconclusions In than 10-15 observations. In Shapiro Wilk Test Statistic In Shapiro Wilk Critical Value In Lognormal at 5% Significance Level In Lognormal Distribution 95% H-UCL	0.942 0.803		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL 95% UCLs (Adjusted for Skewness)	st 8 to 10 o ality Object There are o mough boots may not b p methods Relevant U 0.881 0.803	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. Informed on this data set, Incorporate Conclusions In the than 10-15 observations. In the conclusions In the co	0.942 0.803 19.41 18.35		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua Warning: I Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL 95% UCLs (Adjusted for Skewness)	st 8 to 10 o ality Object There are o nough boots may not b may nethods Relevant U 0.881 0.803	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. Informed on this data set, Inconclusions In than 10-15 observations. In Shapiro Wilk Test Statistic In Shapiro Wilk Critical Value In Lognormal at 5% Significance Level In Lognormal Distribution In Statistic Shapiro Wilk Critical Value In Lognormal at 5% Significance Level In Statistic Shapiro Wilk Critical Value In Lognormal Distribution In Statistic Shapiro Wilk Critical Value In Lognormal Distribution In Statistic Shapiro Wilk Critical Value In Lognormal Distribution In Statistic Shapiro Wilk Critical Value In Statistic Shapiro Wilk Critical Value In Lognormal Distribution In Statistic Shapiro Wilk Critical Value In Statistic Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro Shapiro	0.942 0.803 19.41 18.35 22.51		
73 74 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94	Warning: A sample size of 'n' = 7 may not adequat It is suggested to collect at leas If possible compute and collect Data Qua Warning: The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL 95% UCLs (Adjusted for Skewness)	st 8 to 10 o ality Object There are o nough boots may not b may nethods Relevant U 0.881 0.803	observations us tives (DQO) be only 7 Values i estrap methods be reliable eno-	sing these s ased sample in this data may be pe ugh to draw having more	e size and analytical results. Informed on this data set, Incorporate Conclusions In the than 10-15 observations. In the conclusions In the co	0.942 0.803 19.41 18.35 22.51		

107	etics 95% CLT UCL Jackknife UCL Bootstrap UCL Bootstrap-t UCL Bootstrap UCL	13.07 12.23 14.66				
Theta Star 5.118 103 104 105 105 105 105 105 106 107 108 109	etics 95% CLT UCL Jackknife UCL Bootstrap UCL Bootstrap-t UCL Bootstrap UCL	13.07 12.23 14.66				
nu star 23.98 Approximate Chi Square Value (.05) 13.83 Nonparametric Statist Adjusted Level of Significance 0.0158 Adjusted Chi Square Value 11.57 Adjusted Chi Square Value 11.57 S5% Adjusted Chi Square Value 11.57 Anderson-Darling Test Statistic 0.296 Anderson-Darling Test Statistic 0.296 Anderson-Darling 5% Critical Value 0.713 Anderson-Darling Test Statistic 0.201 Kolmogorov-Smirnov Test Statistic 0.201 Kolmogorov-Smirnov 5% Critical Value 0.314 Assuming Gamma Distributed at 5% Significance Level Assuming Gamma Distribution Possible Chebyshev(None) Assuming Gamma Distribution	95% CLT UCL Jackknife UCL Bootstrap UCL Bootstrap-t UCL Bootstrap UCL Bootstrap UCL	13.07 12.23 14.66				
Approximate Chi Square Value (.05) 13.83 Nonparametric Statist Adjusted Level of Significance 0.0158 Adjusted Chi Square Value 11.57 95% Adjusted Chi Square Value 11.57 95% Standard 109 Anderson-Darling Test Statistic 0.296 Anderson-Darling 5% Critical Value 0.713 Anderson-Darling 5% Critical Value 0.713 Kolmogorov-Smirnov Test Statistic 0.201 Kolmogorov-Smirnov Test Statistic 0.201 Statistic 0.201 95% Percentile 112 Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA 113 Data appear Gamma Distributed at 5% Significance Level 97.5% Chebyshev(Note) 114 Assuming Gamma Distribution	95% CLT UCL Jackknife UCL Bootstrap UCL Bootstrap-t UCL Bootstrap UCL Bootstrap UCL	13.07 12.23 14.66				
106	95% CLT UCL Jackknife UCL Bootstrap UCL Bootstrap-t UCL Bootstrap UCL Bootstrap UCL	13.07 12.23 14.66				
Adjusted Chi Square Value 11.57 95% 108 95% Standard 109 Anderson-Darling Test Statistic 0.296 95% B 110 Anderson-Darling 5% Critical Value 0.713 95% Hall's 111 Kolmogorov-Smirnov Test Statistic 0.201 95% Percentile 112 Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA 113 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Note 114) 97.5% Chebyshev(Note 115) Assuming Gamma Distribution 99% Chebyshev(Note 115)	Jackknife UCL Bootstrap UCL Bootstrap-t UCL Bootstrap UCL Bootstrap UCL	13.07 12.23 14.66				
108 95% Standard 109 Anderson-Darling Test Statistic 0.296 95% B 110 Anderson-Darling 5% Critical Value 0.713 95% Hall's 111 Kolmogorov-Smirnov Test Statistic 0.201 95% Percentile 112 Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA 113 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Note) 114 97.5% Chebyshev(Note) 115 Assuming Gamma Distribution 99% Chebyshev(Note)	Bootstrap-t UCL Bootstrap UCL Bootstrap UCL	14.66				
Anderson-Darling Test Statistic 0.296 95% B Anderson-Darling 5% Critical Value 0.713 95% Hall's Kolmogorov-Smirnov Test Statistic 0.201 95% Percentile Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(N Assuming Gamma Distribution 99% Chebyshev(N	Bootstrap UCL Bootstrap UCL	1				
Anderson-Darling 5% Critical Value 0.713 95% Hall's Kolmogorov-Smirnov Test Statistic 0.201 95% Percentile Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Note that the content of the con	Bootstrap UCL	18.95				
111 Kolmogorov-Smirnov Test Statistic 0.201 95% Percentile 112 Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA 113 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(No.2) 114 97.5% Chebyshev(No.2) 115 Assuming Gamma Distribution 99% Chebyshev(No.2)						
112 Kolmogorov-Smirnov 5% Critical Value 0.314 95% BCA 113 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(No. 114 97.5% Chebyshev(No. 115 Assuming Gamma Distribution 99% Chebyshev(No. 115 99% Chebyshev(Rootetran LICI	12.44				
Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(No. 114 97.5% Chebyshev(No. 115) Assuming Gamma Distribution 99% Chebyshev(No. 115) Assuming Gamma Distribution 99% Chebyshev(No. 115) Page 115 Page 1	DOUGHAP OCL	12.88				
114 97.5% Chebyshev(Nation 99%	Mean, Sd) UCL	18.42				
Assuming Gamma Distribution 99% Chebyshev(N	Mean, Sd) UCL	22.6				
050/ 4 1	Mean, Sd) UCL	30.81				
95% Approximate Gamma UCL 15.2						
95% Adjusted Gamma UCL 18.16						
118						
119 Potential UCL to Use Use 95% S	Student's-t UCL	13.07				
120						
121 SM Bass						
122						
123 General Statistics Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Distinct Number of Valid Observations 8 Number of Observations 8 Number of Observations 8 Number of Observations 8 Number of Observations 8 Number of Observations 8 Number of Observations 9	-t Ob	10				
Number of Valid Observations 8 Number of Distinct	A Observations	10				
Raw Statistics Log-transformed Statis	stics					
127 Minimum 4.2 Minimum	Minimum of Log Data 1.435					
	um of Log Data	2.901				
	ean of log Data	2.047				
	SD of log Data	0.513				
131 SD 4.944						
Coefficient of Variation 0.565						
133 Skewness 1.259		1				
134						
135	······································					
Warning: There are only 8 Values in this data Note: It should be noted that even though bootstrap methods may be performed on this data s						
the moulting coloulations may not be reliable enough to draw conclusions	æt,					
130						
The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.	ions					
140						
141 Relevant UCL Statistics						
Normal Distribution Tost Lossomal Distribution	Test					
Shaniro Wilk Test Statistic 0.840 Shaniro Will	lk Test Statistic	0.934				
[144]	k Critical Value] J				
Data appear Normal at 5% Significance Level Data appear Lognormal at 5% Significance Level	nificance Leve	l				
147)						
148 Assuming Normal Distribution Assuming Lognormal Distribution	ribution					
OFW Children to A LICU 12.07	95% H-UCL	i				
149	44.44.45.15.14.64	15.61				

	Α	В	Гс	D	E	F	G	Н	1 07.50	J K	L
151					ed-CLT UCL					Chebyshev (MVUE) UC	[
152				95% M	odified-t UCL	. 12.2			99%	Chebyshev (MVUE) UC	L 24.5
153											· . · · · · · · · · · · · · · · · · · ·
14			Gamma Dist			10.704		D-4		stribution	
1)			K Star (Dia	s corrected)	<u> </u>		Data appe	ar Normai a	t 5% Significance Level	
156		<i></i>			Theta Star						
157			Ai	- Ch: C	nu star	i			Nanana	Adia Chatiatian	
158					e Value (.05)	1 .			Nonparame	tric Statistics 95% CLT UC	11 62
159					Significance	i				95% Jackknife UC	l
160		····	AC	ijustea Cm s	Quare Value	20.00			059/	Standard Bootstrap UC	
161			Ander	con Darling	Test Statistic	0.401			9376	95% Bootstrap-t UC	
162					Critical Value					5% Hall's Bootstrap UC	. I
163					Test Statistic					Percentile Bootstrap UC	.
164			Kolmogorov-S					····-		95% BCA Bootstrap UC	_ !
165	Da		cornogorov-S amma Distrib			1				ebyshev(Mean, Sd) UC	[
166	J.B	ira abbeai os	anina Distribi	uleu 81 370 3	and unication	FEAGI		,,		ebyshev(Mean, Sd) UC ebyshev(Mean, Sd) UC	į
167		Δ.	ssuming Gam	ma Dietribu	tion	<u> </u>				nebyshev(Mean, Sd) UC	
168			_		Gamma UCL	12 05			33 /6 CI	lebysilev(Meail, Od) OC	20.15
169					Gamma UCL						<u> </u>
170				70 Adjusted V	Janina OCL	14.50					
171			Potential I	JCL to Use		<u> </u>				Jse 95% Student's-t UC	12 07
172											
173	LN Dace				··=						
174											
1)					Gener	al Statistics				
177			Numb	per of Valid (Observations	6			Number	of Distinct Observation	s 6
178				······································		.i	1	··-			
179			Raw S	tatistics				L	.og-transfon	ned Statistics	
180					Minimum	7.08				Minimum of Log Data	1.957
181					Maximum	17.8				Maximum of Log Data	2.879
182						9.468	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Mean of log Date	2.188
183			·////		Median	7.955				SD of log Date	0.351
184						4.145					
185				Coefficien	t of Variation						
100					Skewness	2.286					
186							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
186											
187		Warning: A s	sample size o	f 'n' = 6 may	not adequa	te enough	to compute me	aningful and	d reliable tes	st statistics and estimat	es!
187 188		Warning: A s									es!
187 188 189			It is su	uggested to	collect at lea	est 8 to 10	observations us	sing these s	tatistical me	ethodsi	esi
187 188 189 190			It is su	uggested to	collect at lea	est 8 to 10	observations us	sing these s	tatistical me		esl
187 188 189 190 191			It is su	uggested to	collect at lea	est 8 to 10	observations us	sing these s	tatistical me	ethodsi	esi
187 188 189 190 191 192			It is su	uggested to	collect at lea	ast 8 to 10	observations us	sing these s	tatistical me	ethodsi	esi
187 188 189 190 191 192 193			It is su possible comp	uggested to oute and col	collect at lea	ast 8 to 10 uality Object	observations us ctives (DQO) be only 6 Values in	sing these s ased sample on this data	tatistical me	ethodsl nalytical results.	esi
187 188 189 190 191 192 193			It is su possible comp Note: It sho	uggested to oute and col	collect at lea lect Data Qu Warning: d that even t	ast 8 to 10 lality Object There are	observations us ctives (DQO) be only 6 Values in	sing these s ased sample on this data	tatistical me e size and a formed on t	ethodsl nalytical results. his data set,	esi
187 188 189 190 191 192 193			It is su possible comp Note: It sho	uggested to oute and col	collect at lea lect Data Qu Warning: d that even t	ast 8 to 10 lality Object There are	observations us ctives (DQO) be only 6 Values in	sing these s ased sample on this data	tatistical me e size and a formed on t	ethodsl nalytical results. his data set,	esi
187 188 189 190 191 192 193 194		If p	It is su possible comp Note: It sho	uggested to oute and col ould be note the resulting	collect at leadlect Data Queen Warning: d that even to calculation	ast 8 to 10 lality Object There are though books may not	observations us ctives (DQO) be only 6 Values in otstrap methods be reliable enor	sing these s ased sample in this data may be per ugh to draw	tatistical me e size and a formed on t conclusions	ethodsl nalytical results. his data set,	esi
187 188 189 190 191 192 193 194		If p	It is su possible comp Note: It sho	uggested to oute and col ould be note the resulting	collect at leadlect Data Queen Warning: d that even to calculation	ast 8 to 10 lality Object There are though books may not	observations us ctives (DQO) be only 6 Values in	sing these s ased sample in this data may be per ugh to draw	tatistical me e size and a formed on t conclusions	ethodsl nalytical results. his data set,	əsl

A	B C D E	F Relevant I	G UCL Statistics	н		J	K	L
201	Normal Distribution Test			Lo	onormal Dis	tribution Test		
202	Shapiro Wilk Test Statistic	0.65			•	apiro Wilk Tes	Statistic	0.721
203	Shapiro Wilk Critical Value					apiro Wilk Critic		1
''[Data not Normal at 5% Significance Level	0.700		Data not I d		5% Significanc		0.700
<u> </u>	Data not Normal at 3% Significance Level	••••		7818 HUC LC	Agriciniai at	ow olynmoand	e Level	
206	According Manual Disable street					I Disasibais		
207	Assuming Normal Distribution	40.00		ASSU	ming Logno	rmal Distributio		140.04
208	95% Student's-t UCL	12.88					% H-UCL	
209	95% UCLs (Adjusted for Skewness)					Chebyshev (MV		l
210	95% Adjusted-CLT UCL					hebyshev (MV		t *
211	95% Modified-t UCL	13.14			99% C	hebyshev (MV	UE) UCL	22.75
212								
213	Gamma Distribution Test				Data Dis	tribution		
214	k star (bias corrected)	4.386	Dat	a do not fo	llow a Disce	rnable Distribu	tion (0.0	5)
215	Theta Star	2.159						***************************************
216	nu star	52.63						
217	Approximate Chi Square Value (.05)	36.97		١	Nonparamet	ric Statistics	·····	
218	Adjusted Level of Significance	0.0122				95% (CLT UCL	12.25
219	Adjusted Chi Square Value	32.29				95% Jackk	nife UCL	12.88
220					95% \$	Standard Boots	trap UCL	12.03
	Anderson-Darling Test Statistic	0.941				95% Bootstr	ap-t UCL	23.62
221	Anderson-Darling 5% Critical Value				95	5% Hall's Boots		
222	Kolmogorov-Smirnov Test Statistic				95% P	ercentile Boots	trap UCL	12.6
223	Kolmogorov-Smirnov 5% Critical Value					5% BCA Boots		i
224	Data not Gamma Distributed at 5% Significance Le					ebyshev(Mean,		
,_ }						byshev(Mean,	·	
22.	Assuming Gamma Distribution					byshev(Mean,		
227	95% Approximate Gamma UCL	13 48					,	
228	95% Adjusted Gamma UCL							
229	30% Adjusted Carrina GGE							
230	Potential UCL to Use					se 95% Studen	t'e-t I ICI	12.88
231	1 Otendal OCE to OSE					or 95% Modifi		
232						OI 3370 WIOGIN		10,14
233		~····			,	·····		,
234 Walleye	3		······································					
235			al Statistics					
236	N. observation of the second o		ii Stausucs			-		
237	Number of Valid Observations	0			Number	of Distinct Obse	ervations	0
238			· r			-10		
239	Raw Statistics			Lo	og-transform	ed Statistics		
240	Minimum					Minimum of I		
241	Maximum			,		Maximum of I		
242	Mean						log Data	
243	Median	11.06				SD of	log Data	0.449
244	SD	4.629						
	Coefficient of Variation	0.416						
. I	Skewness	0.0235						
247j								
248								
249	Warning: 1	here are c	only 8 Values in t	his data			······································	
	Note: It should be noted that even the				ormed on th	is data set.		
250				, p-11				

	Α	В	C	D	E	F	G	Н	ĺ	J	K	L	
251				the resulting	calculations	s may not be	reliable enou	ugh to draw	conclusions	3			
252													
253		Ť	he literature	suggests to	use bootstn	p methods	on data sets l	naving more	than 10-15	observation	5.		
	·····	***************************************									,		
)					Relevant U	CL Statistics						
256	<i>J.</i>		Normal Dist	ribution Test				Lo	ognormal Di	stribution Te	st		
257			S	hapiro Wilk T	est Statistic	0.874		·····	S	hapiro Wilk T	est Statistic	0.876	
258			St	napiro Wilk C	ritical Value	0.818	Shapiro Wilk Critical Value 0.818					0.818	
259	*	Data appe	ar Normal at	t 5% Significa	ance Level	4	C	Data appear	Lognormal	at 5% Signif	icance Leve	l	
260		** ********* **************************	***************************************	***************************************									
261		As	suming Non	mal Distributi	ion			Assu	ıming Logno	rmal Distrib	ution	,,	
262	***************************************			95% Stud	dent's-t UCL	14.23	<u> </u>	**			95% H-UCL	16.64	
263		95%	UCLs (Adju	sted for Skev	wness)				95%	Chebyshev (MVUE) UCL	18.96	
264				95% Adjuste	d-CLT UCL	13.84			97.5%	Chebyshev (I	MVUE) UCL	22.33	
265	-,,,,,			95% Mo	dified-t UCL	14.23			99%	Chebyshev (I	MVUE) UCL	28.95	
266						i						l	
267		(Gamma Dist	tribution Test	<u> </u>				Data Dis	stribution			
268				k star (bia	s corrected)	3.906	T	Data appea	ar Normal a	5% Signific	ance Level		
269					Theta Star	2.85					***************************************		
270					nu star	62.49							
271			Approximat	e Chi Square	Value (.05)	45.31		ı	Nonparame	tric Statistics	}	***************************************	
272			Adjus	ted Level of	Significance	0.0195				95	% CLT UCL	13.82	
273			Ad	ljusted Chi So	quare Value	41.63				95% Ja	ckknife UCL	14.23	
274			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						95%	Standard Bo	otstrap UCL	13.63	
, ,	`\		Anders	son-Darling T	est Statistic	0.515				95% Boo	tstrap-t UCL	14.36	
2/.	,)			Darling 5% C		ļ				5% Hall's Bo		L	
277			•	ov-Smirnov T		İ	<u> </u>			Percentile Bo		1	
278	.,		-	mirnov 5% C						95% BCA Bo			
279	Dε	ta appear Gar	nma Distribu	uted at 5% Si	ignificance l	_evel	95% Chebyshev(Mean, Sd) UCL 18.26 97.5% Chebyshev(Mean, Sd) UCL 21.35					i	
280		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,.,									1	
281		Ass	_	ıma Distribut					99% Ch	ebyshev(Me	an, Sd) UCL	27.41	
282				pproximate G		<u> </u>							
283	·		959	% Adjusted G	iamma UCL	16.71							
284									·				
285			Potential L	JCL to Use						Jse 95% Stud	Jent's-t UCL	14.23	
286													
287	Catfish		,										
288													
289					L		Statistics			-450-41 - 5		i 7	
290			Numb	er of Valid O	pservations	4	İ		Number	of Distinct O	pservations	4	
291							B						
292					VA7 1 ==								
293	Warning: This data set only has 4 observations!												
294	Data set is too small to compute reliable and meaningful statistics and estimates!												
, '	The data set for variable Catfish was not processed!												
<u></u>)		fa 1			. 40							
297	,. ,						vations before						
298		It po	ssible, comp	oute and coll	ect Data Qu	anty Objecti	ves (DQO) ba	sea sample	e size and a	naiytical resi	JITS.		
299							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
300						.,-					<u>-</u>		

MIDDLE RIVER 2

	Α	ВІС	T D I E	F	I G I H I I J I K I	L
1	* `		General UCL Statistics	for Full Da		<u> </u>
2		User Selected Options	Middle River 2			
3		From File	M:\Sheboygan River\5_I	Post-Reme	diation\2_Sampling Results\5_Fish Monitoring\Baseline Stats\MR2\	MR 2 Fish
	`	Full Precision	OFF	frid f fire a ser a a constitue a comme muse off fi		
_)	Confidence Coefficient	95%			
6	Number o	of Bootstrap Operations	2000			
7						
8						
	A. Sucker			***************************************		
10	***********			************************		
11				Genera	al Statistics	
12	***************************************	Numi	ber of Valid Observations	8	Number of Distinct Observations 8	
13						
14		Raw S	tatistics		Log-transformed Statistics	
15			Minimum	0.925	Minimum of Log Data -0	.078
16			Maximum	6.98	Maximum of Log Data 1.	943
17			Mean	3.962	Mean of log Data 1.	229
18			Median		SD of log Data 0.	639
19				2.012		
20			Coefficient of Variation			
21			Skewness	0.218		
22						
23						
24			-		only 8 Values in this data	
)		, my pay par del francisco de la contractica del la contractica del la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica de la contractica d		tstrap methods may be performed on this data set,	
∠0			the resulting calculation	s may not t	pe reliable enough to draw conclusions	
27					10.45	
28		I ne literature	suggests to use bootstr	ap metnod:	s on data sets having more than 10-15 observations.	
29				Delevent	IOI Castistica	
30	,,	Normal Diet	tribution Test	Relevant	UCL Statistics Lognormal Distribution Test	
31			hapiro Wilk Test Statistic	0.057	Shapiro Wilk Test Statistic 0.	001
32			hapiro Wilk Critical Value	t	Shapiro Wilk Critical Value 0.	
33			t 5% Significance Level	0.616	Data appear Lognormal at 5% Significance Level	
34		Data appear Normal at			Data appear Logitornia at 0% Orgitimeance Level	
35		Assuming Non	mal Distribution		Assuming Lognormal Distribution	
36		Assuming Hon	95% Student's-t UCL	5 300	95% H-UCL 7.1	878
37		95% HCLs (Adio	sted for Skewness)	10.000	95% Chebyshev (MVUE) UCL 8.	
38		` •	95% Adjusted-CLT UCL	5 10	97.5% Chebyshev (MVUE) UCL 9.9	
39			95% Modified-t UCL		99% Chebyshev (MVUE) UCL 13	
40			JO 70 INCUMENT OCL	0.013	3370 Griedysnev (invol.) OCL 13	
41		Gamma Diet	tribution Test		Data Distribution	
42	,	Gamina Dist	k star (bias corrected)	2 296	Data appear Normal at 5% Significance Level	
43			Theta Star	[Data appear normal at 0.0 digital carice Level	
44			nu star			
, 1)	Annrovimate	e Chi Square Value (.05)	l	Nonparametric Statistics	
 	<u> </u>	• • • • • • • • • • • • • • • • • • • •	ted Level of Significance		95% CLT UCL 5.	132
47			ljusted Chi Square Value	 	95% Jackknife UCL 5.3	
48		Λυ	Justice Sin Equals Value		95% Standard Bootstrap UCL 5.0	
49		Anders	son-Darling Test Statistic	0.286	95% Bootstrap-t UCL 5.5	
50		Anders	,c., caming rest outratio	3.200	3070 BOOIS(18)-1 OCE 0.1	

51									
()	A B C D E Anderson-Darling 5% Critical Value	F 0.72	G	Н		95%	J Hall's B	K ootstrap UCI	5.976
52	Kolmogorov-Smirnov Test Statistic	l			959	% Perc	entile B	ootstrap UCI	5.06
53	Kolmogorov-Smirnov 5% Critical Value	0.296			**************************************	95%	BCA B	ootstrap UCI	5.1
	Data appear Gamma Distributed at 5% Significance L	_evel			95% (Cheby	shev(Me	ean, Sd) UCI	7.062
					97.5% (Cheby	shev(Me	ean, Sd) UCI	8.404
56	Assuming Gamma Distribution	L			99% (Cheby	shev(Me	ean, Sd) UCI	11.04
57	95% Approximate Gamma UCL	6.099							
58	95% Adjusted Gamma UCL	6.841					·····		
59									
60	Potential UCL to Use					Use	95% Stu	udent's-t UCI	5.309
61					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
62									
63 J	l. Sucker				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
64									
65			Statistics						
66	Number of Valid Observations	7		· · · · · · · · · · · · · · · · · · ·	Numt	per of	Distinct	Observation:	7
67			•••••	***************************************					
68	Raw Statistics	r=		L	og-transfe				
69	Minimum							n of Log Data	l
70	Maximum							n of Log Data	1
71	Mean			•••••				n of log Data	
72	Median						S	D of log Data	0.269
73	Coefficient of Variation	0.39							
1	Coefficient of variation								
74	Skawness								<u> </u>
74	Skewness								
10	Skewness								
77	J	0.979	o compute me	aningful and	I reliable	test si	atistics	and estimate	
77 78) Warning: A sample size of 'n' = 7 may not adequate	0.979	o compute me	aningful and	I reliable	test st	atistics	and estimate	esi
77 78 79	J	0.979 te enough to						and estimate	si
70 77 78 79 80	Warning: A sample size of 'n' = 7 may not adequate	0.979 be enough to st 8 to 10 ob	oservations us	ing these s	tatistical r	metho	ds!		esl
77 78 79 80 81	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea	0.979 be enough to st 8 to 10 ob	oservations us	ing these s	tatistical r	metho	ds!		si
77 78 79 80 81 82	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea	0.979 be enough to st 8 to 10 ob	oservations us	ing these s	tatistical r	metho	ds!		esl .
77 78 79 80 81 82 83	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu	0.979 te enough to st 8 to 10 ob ality Objecti	oservations us	ing these si sed sample	tatistical r	metho	ds!		ssl ssl
77 78 79 80 81 82	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu	0.979 se enough to st 8 to 10 ob ality Objecti	oservations us ives (DQO) be nly 7 Values in	ing these si sed sample this data	tatistical r	metho I analy	ds! rtical res	sults.	esl
77 78 79 80 81 82 83 84	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning:	te enough to st 8 to 10 ob ality Objecti There are or	oservations us ives (DQO) be nly 7 Values in strap methods	ing these si sed sample this data may be per	tatistical r	metho I analy	ds! rtical res	sults.	ssl ssl
77 78 79 80 81 82 83 84 85	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the	te enough to st 8 to 10 ob ality Objecti There are or	oservations us ives (DQO) be nly 7 Values in strap methods	ing these si sed sample this data may be per	tatistical r	metho I analy	ds! rtical res	sults.	es l
77 78 79 80 81 82 83 84 85 86	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the	te enough to st 8 to 10 ob ality Objecti There are or hough boots	oservations us ives (DQO) be nly 7 Values in strap methods e reliable enou	ing these si sed sample this data may be per	tatistical resistant	metho I analy In this	ds! rtical res data sel	sults.	ssl ssl
77 78 79 80 81 82 83 84 85 86 87	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	0.979 se enough to st 8 to 10 ob ality Objecti There are or nough boots a may not be	oservations us ives (DQO) be nly 7 Values in strap methods e reliable enou	ing these si sed sample this data may be per	tatistical resistant	metho I analy In this	ds! rtical res data sel	sults.	es l
77 78 79 80 81 82 83 84 85 86 87 88	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	0.979 se enough to st 8 to 10 ob ality Objecti There are or nough boots a may not be	oservations us ives (DQO) be nly 7 Values in strap methods e reliable enou	ing these si sed sample this data may be per gh to draw	formed or conclusion than 10-	metho I analy In this In this	ds! rtical res data set	sults.	isl isl
77 78 79 80 81 82 83 84 85 86 87 88	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra	0.979 se enough to st 8 to 10 ob ality Objecti There are or nough boots a may not be	oservations us ives (DQO) be nly 7 Values in strap methods e reliable enou	ing these si sed sample this data may be per gh to draw	formed or conclusion	metho i analy n this ons 15 obs	ds! rtical res data set	sults.	
777 78 79 80 81 82 83 84 85 86 87 88 89	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic	o.979 st e enough to st 8 to 10 ot ality Objecti There are or nough boots a may not be p methods Relevant Uo	oservations us ives (DQO) be nly 7 Values in strap methods e reliable enou	ing these si sed sample this data may be per gh to draw	formed or conclusion than 10-	n this ons 15 obs	ds! data set servation oution To	sults. ns. est Test Statistic	0.921
77 78 79 80 81 82 83 84 85 86 87 88 89 90	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value	o.979 st e enough to st 8 to 10 ot ality Objecti There are or nough boots a may not be p methods Relevant Uo	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per ogh to draw aving more	formed or conclusion	n this ons 15 obs Distrit Shapi	ds! rtical res data set servation ro Wilk (ro Wilk (est Test Statistic Critical Value	0.921
777 78 79 80 81 82 83 84 85 86 87 88 89 90 91	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic	o.979 st e enough to st 8 to 10 ot ality Objecti There are or nough boots a may not be p methods Relevant Uo	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per ogh to draw aving more	formed or conclusion	n this ons 15 obs Distrit Shapi	ds! rtical res data set servation ro Wilk (ro Wilk (sults. ns. est Test Statistic	0.921
777 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level	o.979 st e enough to st 8 to 10 ot ality Objecti There are or nough boots a may not be p methods Relevant Uo	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per igh to draw aving more	formed or conclusion than 10-	n this ons Distrit Shap Shapi	ds! rtical res data set servation fro Wilk (% Signi	est Test Statistic Critical Value	0.921
777 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level	0.979 se enough to st 8 to 10 ob ality Objecti There are or nough boots amay not be appropriate to the control of the control	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per igh to draw aving more	formed or conclusion	n this ons Distrit Shap Shapi	ds! rtical res data set servation fro Wilk (% Signi	est Test Statistic Critical Value ficance Leve	0.921
777 78 79 80 81 82 83 84 85 86 87 88 89 90 91	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL	0.979 se enough to st 8 to 10 ob ality Objecti There are or nough boots amay not be appropriate to the control of the control	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per igh to draw aving more	formed or conclusion than 10-	n this ons Distrit Shap Shapi al at 5	ds! rtical res data set servation ro Wilk ro Wilk % Signi	est Test Statistic Critical Value ficance Leve	0.921 0.803
777 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL 95% UCLs (Adjusted for Skewness)	o.979 st 8 to 10 observed ality Objecti There are or nough boots array not be present U6 0.886 0.803	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per igh to draw aving more	formed or conclusion than 10-	n this ons 15 obs Distrit Shapi al at 5	ds! rtical res data set servation ro Wilk (% Signi	est Test Statistic Critical Value ficance Leve	0.921 0.803 1 1.736 1.973
777 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94	Warning: A sample size of 'n' = 7 may not adequal It is suggested to collect at lea If possible compute and collect Data Qu Warning: Note: It should be noted that even the resulting calculations The literature suggests to use bootstra Normal Distribution Test Shapiro Wilk Test Statistic Shapiro Wilk Critical Value Data appear Normal at 5% Significance Level Assuming Normal Distribution 95% Student's-t UCL	e enough to st 8 to 10 ob ality Objecti There are or nough boots a may not be ap methods Relevant Ut 0.886 0.803	oservations usives (DQO) being 7 Values in strap methods e reliable enou	ing these so sed sample this data may be per igh to draw aving more	formed or conclusion than 10-10-10-10-10-10-10-10-10-10-10-10-10-1	metho i analy n this bus Distrit Shap Shapi al at 5	ds! data set data set servation fro Wilk W Signi al Distrib byshev (est Test Statistic Critical Value ficance Leve	0.921 0.803 1 1.736 1.973 2.236

	Α	В	С	D		E	F	G	Н		J	K	Τι
101					=								
102			Gamma Dis				70.000				istribution		,,
103				K Star		corrected) Theta Star			Data appe	ar Normai 8	at 5% Signifi	cance Level	
140/-)			**************		nu stai	1						
, 4	<i></i>		Approximat	o Chi Sa	iara V					Nonnorm	etric Statistic	······································	
106						gnificance	1			Nonparank		.s 95% CLT UC	1 611
107			-			are Value	J					ackknife UC	
108							35.17			95%	Standard B		
109	-		Ander	son-Darlir	na Tes	st Statistic	0.388					otstrap-t UC	
110			Anderson-				<u> </u>				95% Hall's B	· ·	1
111			Kolmogor				.i				Percentile B		
112		K	olmogorov-S				İ					Bootstrap UC	
113	Data		mma Distrib							95% C	hebyshev(M		
114											hebyshev(M		
115		As	suming Gan	nma Distr	ibutio	n	.1				hebyshev(M		_ !
116			•			mma UCL	1.705					·	
118			95	% Adjuste	ed Ga	mma UCL	1.826				##!!##!!##!!##!!		
119									,				
120			Potential l	JCL to Us	se						Use 95% St	udent's-t UC	L 1.655
121													
122													
123	SM Bass												
124										,			
•)				·			al Statistics					
1∠6			Numt	per of Vali	id Obs	servations	8			Numbe	er of Distinct	Observation	s 8
127			D 0	4_4!_4!									***************************************
128			Raw S	tatistics		Minimum	264		L	.og-transtol	med Statisti	n of Log Dat	0.071
129						Maximum		<u> </u>				n of Log Dat	
130							4.303					an of log Dat	_1
131						Median	I					D of log Date	
132							1.607						
133				Coeffici	ent of	f Variation							
134 135						Skewness	<u> </u>						
136							1						.1
137													
138		, 	.,,.,		V	Varning:	There are	only 8 Values i	n this data				
139			Note: It sho	ould be no	oted ti	hat even t	hough boo	tstrap methods	may be per	formed on	this data se	<u>.</u>	
140				the result	ing c	alculation	s may not l	be reliable eno	igh to draw	conclusion	s		
141				*******************		4 04 F 1 174 Palent F 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
142		T	he literature	suggests	to us	e bootstr	ap method:	s on data sets l	naving more	than 10-1	5 observatio	ns.	
143	***************************************						····						
144							Relevant l	UCL Statistics			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	*** * *********************************	
	\		Normal Dist	ribution T	est				Lo	ognormal D	istribution T	est	
				-		t Statistic	;				Shapiro Wilk		ì
147			Sh	napiro Wil	k Criti	ical Value	0.818			S	hapiro Wilk	Critical Value	0.818
148		Data appe	ar Normal at	5% Sign	ifican	ce Level			ata appear	Lognormal	at 5% Signi	ficance Leve)
149													
150		As	suming Nom	nal Distril	bution)			Assu	ıming Logn	ormal Distrib	oution	

			1 0 1				T
151	A B C D E 95% Student's-t UCL	F 5.379	G	н	!	J K 95% H-UCI	5.646
152	95% UCLs (Adjusted for Skewness)				95% C	Chebyshev (MVUE) UCI	6.523
153	95% Adjusted-CLT UCL	5.555			97.5% C	Chebyshev (MVUE) UCI	7.49
100	95% Modified-t UCL	5.429			99% C	Chebyshev (MVUE) UCI	9.389
) -					····		4
156	Gamma Distribution Test	***************************************			Data Dis	tribution	,,
157	k star (bias corrected)	6.103		Data appea	er Normal at	5% Significance Level	
158	Theta Star	0.705		. 4 * / / /			
159	nu star	97.65					
160	Approximate Chi Square Value (.05)	75.86			Vonparamet	ric Statistics	
161	Adjusted Level of Significance	0.0195				95% CLT UCI	5.237
162	Adjusted Chi Square Value	71.01				95% Jackknife UCI	5.379
163					95% \$	Standard Bootstrap UCI	5.212
164	Anderson-Darling Test Statistic	0.336				95% Bootstrap-t UCI	6.593
165	Anderson-Darling 5% Critical Value	0.715			95	6% Hall's Bootstrap UCI	11
166	Kolmogorov-Smirnov Test Statistic	0.214			95% P	ercentile Bootstrap UCI	5.249
167	Kolmogorov-Smirnov 5% Critical Value	0.294			9	5% BCA Bootstrap UCI	5.536
168	Data appear Gamma Distributed at 5% Significance L	_evel			95% Che	ebyshev(Mean, Sd) UCI	6.779
169					97.5% Che	ebyshev(Mean, Sd) UCI	7.851
170	Assuming Gamma Distribution				99% Che	ebyshev(Mean, Sd) UCI	9.956
171	95% Approximate Gamma UCL	5.539					
172	95% Adjusted Gamma UCL	5.917					
173							
174	Potential UCL to Use				U	se 95% Student's-t UCI	5.379
177 K. I		Genera	al Statistics				
179	Number of Valid Observations				Number	of Distinct Observations	8
180	Number of Value Observations		!				1
181	Raw Statistics			L.	og-transform	ed Statistics	
182	Minimum	1.42				Minimum of Log Data	0.351
183	Maximum			-,,		Maximum of Log Data	<u> </u>
184	Mean	2.486		,,,,,,		Mean of log Data	.]
185 186	Median	2.235				SD of log Data	i
187	SD	0.79					
188	Coefficient of Variation	0.318					1
189	Skewness	0.487			·····		
190							.L
191		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
192	Warning: 1	There are	only 8 Values in	this data			
193	Note: It should be noted that even the	ough boo	tstrap methods	may be per	formed on th	is data set,	
194	the resulting calculations	may not t	be reliable enou	igh to draw	conclusions		
) <u>-</u>	The literature suggests to use bootstra	n method	s on data sats h	avina moro	than 10-15	hearvations	
السنا	me iliaratura suggests to use bootstra	h menioos	a un udia SEIS I	eand more	ulan 10-13 (Justi Vauviis.	
197		Relevant I	UCL Statistics				
198	Normal Distribution Test			Ln	anormal Dis	tribution Test	······································
199	Shapiro Wilk Test Statistic	0.935				apiro Wilk Test Statistic	0.959
200	Gridpilo Wilk Test Glatistic	5.555	1		011	-po 1000 Otaublic	3.555

	A		В	1	С	T.	D	T	E	F		G	Н	T	1	<u> </u>	J		K		
201						•	,	,	I Value	0.818									al Value	1	;
202			Data appe	ear N	iormal	at 5%	Signif	icance	Level				Data appe	ar Lo	gnorma	el at 5%	Signi	fican	ce Leve	{ 	
203				~ ~ · · · · · · · · · · · · · · · · · ·					**				,,			*					
المحما	\		As	ssun	ing No					,			As	sumi	ng Logr	normal				4-	
	<i>.</i> 		پورمو چه و محمد مو د مو و د مد د مني.		· · · · · · · · · · · · · · · · · · ·				s-t UCL	3.016									H-UCL		
206			95%	6 UC	Ls (Adj														JE) UCL	1	
207						959	6 Adjus	sted-Cl	LT UCL	2.997									JE) UCL	1	
208							95% N	odified	d-t UCL	3.024					99%	6 Cheby	/shev (MVL	JE) UCL	5.302	!
209											į				·						
210				Gar	nma Di	stribu	tion Te	est							Data D						
211						k	star (b	ias cor	rected)	7.217			Data app	oear N	Normal a	at 5% 9	Signific	ance	e Level		
212								The	eta Star	0.345											
213						**********			nu star	115.5							***************************************				
214				Ap	proxima	ate Ch	ni Squa	re Vali	ue (.05)	91.66				Nor	nparam	etric St	atistic	S			
215		*************			Adju	usted	Level	f Signi	ficance	0.019	5		***************************************				95	5% C	LT UCL	2.946	;
216					A	Adjust	ed Chi	Square	e Value	86.3						(95% Ja	ckkr	nife UCL	3.016	;
217															959	% Stand	lard Bo	otst	rap UCL	2.913	,
218			J		Ande	rson-	Darling	Test S	Statistic	0.27				* . *		95	% Boo	otstra	ip-t UCL	3.167	i
219				Ar	derson	ı-Darl	ing 5%	Critica	l Value	0.715	<u>-</u>		***************************************			95% H	all's Bo	otst	rap UCL	3.254	,
220				K	olmogo	rov-S	mirnov	Test S	Statistic	0.206					95%	Perce	ntile Bo	ootsti	rap UCL	2.939)
221			K	Colmo	gorov-	Smirr	iov 5%	Critica	I Value	0.294		··	,,			95% E	BCA Bo	ootsti	rap UCL	2.924	ļ
222		Data a	ppear Ga	mma	Distril	buted	at 5%	Signifi	icance	Level					95% C	hebysh	nev(Me	an, S	Sd) UCL	3.704	r
223								***********					,,	9	7.5% C	hebyst	ev(Me	an, S	Sd) UCL	4.231	
224			As	ssum	ing Ga	mma	Distrib	ution					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		99% C	hebyst	ev(Me	an, S	Sd) UCL	5.266	;
- -)				95%	Appro	ximate	Gamn	na UCL	3.132									.,		
 ∠∠6					9	5% A	djusted	Gamn	na UCL	3.327								******			
227			~~																		
228				Po	tential	UCL	to Use)							.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Use 95	5% Stu	dent	's-t UCL	3.016	j
229																					
230																					
231	LN Dad	æ																			
232		2,311,311,0																			
233										Ge	neral S	tatistics									
234					Num	nber o	f Valid	Obser	vations	8					Numbe	er of Di	stinct C	Obse	rvations	8	
235																					
236					Raw	Statis	tics			ya sa				Log-	transfo					· · · · · · · · · · · · · · · · · · ·	
237									inimum										og Data	<u> </u>	
238								Ma	ximum							Ma			og Data	l	
239										8.508									og Data	ļ	
240								1	Median	i							SE	O of l	og Data	0.292	
241									SD	2.248				,,							
242						Co	efficie	nt of Va	ariation	0.264											
243		.,,						Ske	ewness	-0.507											
244																					
\Box									•••••	****											
ls ==)							Wa	rning:	There a	re only	8 Values	in this data	1							
247				Not	e: it sh	ould	be not	ed that	even t	hough	bootstr	ap method:	s may be p	erfor	med on	this da	ta set,				
248						the r	esultin	g calc	ulations	may r	ot be r	eliable end	ugh to dra	w con	nclusion	15				****	
249			.,													,,					
250			Т	he li	terature	e sug	gests t	o use l	bootstra	p meti	ods on	data sets	having mo	re the	an 10-1	5 obse	vation	s.			
التتت																					

П	A	В	С		D	Е	F	G	Н	T 1	T J	Тк	T L
251		-t -	1	<u>.</u>	_		. 			<u> </u>			
252		···-·	·····				Relevant	UCL Statistic	:S	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	.,	
253			Normal Dis	stributio	on Test	<u> </u>				Lognormal D	Distribution T	est	
	`			Shapiro	Wilk 1	est Statistic	0.93				Shapiro Wilk	Test Statistic	0.906
)			Shapiro	Wilk C	ritical Value	9 0.818				Shapiro Wilk	Critical Value	0.818
256	·····	Data appe	ar Normal	at 5% S	Signific	ance Level			Data appe	ar Lognorma	al at 5% Sign	ificance Leve)
257				,						***************************************		- M	
258		As	suming No	rmal Di	istribut	ion			As	suming Logr	normal Distril	bution	
259		***************************************	·····	95	5% Stu	dent's-t UCI	_ 10.01					95% H-UCL	10.75
60		95%	UCLs (Adj	usted fo	or Ske	wness)				95%	Chebyshev	(MVUE) UCI	12.38
261				95%	Adjuste	d-CLT UCI	9.663			97.5%	Chebyshev	(MVUE) UCL	14.05
262				9	5% M o	dified-t UCI	9.99	<u> </u>		99%	Chebyshev	(MVUE) UCL	17.32
63													1
64			Gamma Di	stributio	on Tes	t	,			Data D	Distribution		
65				k s	tar (bia	s corrected) 9.158		Data app	ear Normal	at 5% Signifi	cance Level	
66						Theta Sta	r 0.929						
267						nu sta	r 146.5						
268			Approxima	ate Chi	Square	Value (.05) 119.6			Nonparam	etric Statistic	.	
269			Adju	isted Le	evel of	Significance	0.0195	-			9	5% CLT UCL	9.815
70			Α	Adjusted	Chi S	quare Value	e 113.4				95% Ja	ackknife UCL	10.01
70										95%	% Standard B	ootstrap UCL	9.747
72			Ande	rson-Da	arling T	est Statistic	0.349				95% Bo	otstrap-t UCL	9.877
73			Anderson	-Darlin	g 5% C	ritical Value	€ 0.716				95% Hall's B	ootstrap UCL	9.591
74			Kolmogo	rov-Sm	imov T	est Statistic	0.211			95%	Percentile B	ootstrap UCL	9.734
.73))	Ko	olmogorov-	Smirno	v 5% C	ritical Value	0.294		m1 - m1 11 - 11 - 11 - 11 - 11 - 11 - 1		95% BCA B	ootstrap UCL	9.598
/6	Date	appear Gar	nma Distrit	outed a	t 5% S	ignificance	Level			95% C	hebyshev(Me	ean, Sd) UCL	11.97
77										97.5% C	hebyshev(Me	ean, Sd) UCL	13.47
78		Ass	suming Ga	mma D	istribut	ion		-		99% C	hebyshev(Me	ean, Sd) UCL	16.42
79		~	95% /	Approxi	mate C	amma UCI	10.43						1
80			95	5% Adju	usted C	amma UCI	10.99						
81							†						***************************************
82			Potential	UCL to	Use						Use 95% Stu	udent's-t UCL	10.01
83						·							
84							,-,				***************************************		
	Catfish								······				
86													
87		.,,,.		.,			Genera	al Statistics		***************************************			
88			Num	ber of \	Valid O	bservations	4			Numbe	er of Distinct (Observations	4
89													***************************************
90													
91		····-				Warning: T	his data se	t only has 4 c	observations	ş!		***************************************	
92			Da	ta set is	s too s	mali to com	pute reliab	le and meani	ngful statisti	cs and estim	nates!		
93		.,,,,, .,,,,			Tł	ne data set	for variable	Catfish was	not process	ed!			***************************************
94									.,,,,	, , , , , , , , , , , , , , , , , ,	•••••••••••••••••••••••••••••••••••••••		
_	`		It is sugg	ested 1	to colle	ct at least	B to 10 obse	ervations befo	ore using the	ese statistica	al methods!	***************************************	
)	lf po	ssible, con	npute a	nd coll	ect Data Q	uality Objec	tives (DQO)	based samp	ole size and	analytical res	sults.	***************************************
97													
98													
8													

LOWER RIVER

		T -			_ _				-1				
1	Α	<u> </u>	C	General UCL	E Statistics	F for Full Data	G Sets	<u> </u> н		<u> </u>	IJ	<u> K</u>	<u> </u>
2	<u> </u>	User Sele	cted Options	Lower River					*******	,			
3			From File	M:\Sheboygar	n River\5_	Post-Remedi	ation\2_Sam	pling Res	ults\5	_Fish Mo	nitoring\Base	line Stats\LF	\LR Fish no
				OFF									
)			95%							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
6	Number	of Bootstrap	Operations	2000						••••		.,	
7			,								,		
8													
9	A. Carp												
10					·····	Cananal	Statistics						
11			Numh	per of Valid Ob	convations		Statistics			Numbo	r of Distinct C	heanystione	0
12				ei di valid du			L			Nullibe	I OI DISTINCT C	20561 ValiO115	0
13			Raw Si	tatistics	···-		r		Loc	-transfor	med Statistic	·s	
14					Minimum	0.458						of Log Data	-0.781
15 16					Maximum							of Log Data	
17					Mean	10.99						n of log Data	ļ
18					Median	2.285					Si	O of log Data	1.532
19					SD	15.37			····				
20				Coefficient o	f Variation	1.399							
21					Skewness	1.865			· ······				
22											A F 1/4 10 4 1 1 4 10 10 10 10 10 10 10 10 10 10 10 10 10		
23									···				
24					_	There are or	-				<u> </u>		
	``)			ould be noted t the resulting c		_	-	-	-				
2	ر ا			uic resulting c							·······		
27 28			The literature	suggests to u	se bootstr	ap methods	on data sets	having m	nore th	an 10-15	observation	IS.	
29													
30						Relevant U	CL Statistics			ee			
31			Normal Dist	ribution Test					Logi	normal Di	stribution Te	st	
32			SI	hapiro Wilk Te	st Statistic	0.721				S	hapiro Wilk 1	Fest Statistic	0.911
33				napiro Wilk Crit		0.818					hapiro Wilk C		
34		Data no	t Normal at 5	% Significance	e Level			Data app	ear Lo	gnormal	at 5% Signif	icance Leve	l
35					·-·-			-					
36		A:	ssuming Norr	nal Distributio		04 00		Α	ssum	ing Logno	ormal Distrib		222
37		OE W	. IICI o /Adi	95% Stude sted for Skewr		21.28				OE W	Chebyshev (95% H-UCL	
38		90%		95% Adjusted		23 75			•••••		Chebyshev (Chebyshev (····	
39				95% Modi							Chebyshev (i Chebyshev (i		
40						55			· · · · · · · · · · · · · · · · · · ·		(I		
41			Gamma Dist	ribution Test						Data Dis	stribution		
42				k star (bias	corrected)	0.489	Data Fo	ollow App	r. Gan		ibution at 59	6 Significano	e Level
44					Theta Star	i		***************************************					
\vdash			,,,,		nu star	7.826							
) '		Approximate	e Chi Square V	/alue (.05)	2.634			No	nparame	tric Statistics	···-··································	
47 1	J		Adjust	ted Level of Sig	gnificance	0.0195					95	% CLT UCL	19.92
48			Adj	justed Chi Squ	are Value	1.936		***************************************			95% Ja	ckknife UCL	21.28
		· · · · · ·				·							

	A						_	D		E	F	G					<u> </u>	K	
49	<u>^</u>	نـــــ	В			<u>. </u>		<u> </u>		_ =	<u> </u>	<u> </u>	н [!	95% s	Standard	Bootst	trap UCL	19.19
50						Ande	rson-	Darling	Test	Statistic	0.619					95% [Bootstra	ap-t UCL	33.88
51				*********	Ande	erson	-Dari	ing 5%	Critic	al Value	0.752				95	% Hall's	Bootst	trap UCL	45.35
<u> </u>					Kolr	mogo	rov-S	mirnov	Test	Statistic	0.32		······································	9	5% P	ercentile	Bootst	trap UCL	20.1
	<u>'</u>	····		K	olmogo	orov-S	Smin	10v 5%	Critic	al Value	0.306				9	5% BCA	Bootst	trap UCL	23.04
54	Da	ta fo	llow Ap	pr. G	amma	Dist	tribut	ion at 5	% Siç	nifican	e Level			959	% Che	byshev(Mean,	Sd) UCL	34.67
55											T			97.59	% Che	byshev(Mean,	Sd) UCL	44.92
56				As	sumin	g Gar	mma	Distrib	ution					999	% Che	byshev(Mean,	Sd) UCL	65.06
57		*** *******			9	95% A	Appro	ximate	Gam	ma UCL	32.63								
58				······		95	5% A	djusted	Gam	ma UCL	44.4			***************************************					
59																			
60					Pote	ential	UCL	to Use						Use 95	% Ap	proxima	te Gam	ıma UCL	32.63
61						***************************************												***************************************	
62			***************************************																
63	A. Suc	ker																	
64										.,,=,,	,								
65											.,	al Statistics							,
66						Num	nber (of Valid	Obse	rvations	2			Nui	mber	of Distin	ct Obse	ervations	2
67								,			,=								
68																			
69												et only has 2 ob							
70						Da	ita se				·	ole and meaning			stima	es!			
71									ne da	te set to	or variable	A. Sucker was	not process	ea:					
72					it in			d to 00	lloot r	t loost	2 to 10 obs	ervations before		o static	nticol .				
	}	·····		If no			- 					ctives (DQO) b							
7	ı	,,																	
75	J. Suck	ær																	
76 77																			
78				····-							Gener	al Statistics		······································					
79						Num	iber o	of Valid	Obse	rvations	5			Nur	mber	of Distin	ct Obse	ervations	5
80	••••••	•••••••									1								
81					F	Raw S	Statis	tics					L	og-tran	sform	ed Stati	stics		
82									N	linimum	0.587					Minim	um of L	og Data	-0.533
83			<i>,,</i>						М	aximum	1.64					Maxim	um of L	og Data	0.495
84				•••••						Mean	1.035					М	lean of	log Data	-0.0342
85	***************************************							**************		Median	0.967			••• •••••			SD of	log Data	0.417
86									*********	SD	0.427								
87				***********			Ç	pefficie	nt of V	ariation	0.413								
88						***************************************			Sk	ewness	0.587								
89											<i></i>								
90												····							
91		W	arning:	: A sa	mple	size (of 'n'	= 5 ma	y not	adequa	te enough	to compute me	aningful and	l reliabl	e tesi	statistic	s and o	estimate	sl
92	,,																		
		• • • • • • • • • • • • • • • • • • • •				lt is s	ugge	ested to	colle	ct at lea	st 8 to 10	observations u	sing these st	tatistica	l met	nods!			
۱ -)			If po	ssible	com	pute	and co	llect l	Data Qu	ality Obje	ctives (DQO) ba	ased sample	size aı	nd an	alytical i	results.	•	
95 j	J				*************														
96			,																
97									Wε	rning:	There are	only 5 Values i	n this data						
					Note:	lt sh	ould	be note	d tha	t even t	hough boo	tstrap methods	may be per	formed	on th	s data s	et,		
98 l																			

the resulting calculations may not be reliable enough to drew conclusions The literature suggests to use bootstrap methods on data sets having more than 10-15 observations. Relevant UCL Statistics Normal Distribution Test Shapiro Wilk Test Statistic 0.953 Shapiro Wilk Test Statistic 0.972 Shapiro Wilk Critical Value 0.762 Shapiro Wilk Critical Value 0.762 Data appear Normal at 5% Significance Level Data appear Normal Distribution Assuming Lognormal Distribution 95% Student's+ UCL 1.443 95% HUCL (Adjusted for Skewness) 95% Chebyshev (MVUE) UCL 1.871 95% Modified+ UCL 1.451 95% Adjusted-Cit UCL 1.403 95% Adjusted Normal Distribution Relevant UCL Statistics Lognormal Distribution Assuming Lognormal Distribution Data appear Normal at 5% Significance Level Theta Star (Distribution Test Deta Distribution Data appear Normal at 5% Significance Level Adjusted Level of Significance 0.0086 95% Cit UCL 1.35 Anderson-Darling Test Statistic 0.214 95% Bootstrap UCL 1.35 Anderson-Darling Test Statistic 0.214 95% Bootstrap UCL 1.35 Anderson-Darling Test Statistic 0.197 95% Percentile Bootstrap UCL 1.351 Anderson-Darling Test Statistic 0.197 95% Chebyshev(Mean, Sc) UCL 2.297 Data appear Gamma Distribution 0.358 95% AG Bootstrap UCL 1.365 95% Adjusted Gamma UCL 2.087 Data appear Rormal at 5		<u> </u>			ш				1
The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.		A B C D E the resulting calculations	F may not	G be reliable enoug	H to drav	v conclusio	ns J	K	<u> </u>
The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.									
		The literature suggests to use bootstra	n method	s on data sets ha	vina mo	re than 10-1	5 observation	ons.	
Normal Distribution Test	101								
Normal Distribution Test	ار		Relevant	UCL Statistics					••••••
1940 Shapiro Wilk Test Statistic 0.953 Shapiro Wilk Critical Value 0.762 Shapiro Wilk Critical Value 0.762 Shapiro Wilk Critical Value 0.762 One of the property of the pr	<u> </u>			7		ognormal (Distribution 1	lest	
Data appear Normal et 5% Significance Level Data appear Lognormal at 5% Significance Level			n 953						0 972
Data appear Normal at 5% Significance Level	105	_ '							İ
	106				te enne				1
Assuming Normal Distribution Sym Student's-t UCL 1.443 Sym Sym Sym Sym Sym Sym Sym Sym Sym Sym	107	Data appear Normal at 3 % Significance Level			ira appea	ii Logiloilik	ar ar o Ar Olgi	illicative reve	· ····
100 95% Student's-t UCL 1.443 95% H-UCL 1.85 111	108	According Named Disable tion			A		nomel Diete		
110	109	——————————————————————————————————————	1 440		AS	suming Log	normai Disu		1.05
1112	110		1.443			0.50			
113	111							· · · · · · · · · · · · · · · · · · ·	
Gamma Distribution Test Data Distribution	112								1
115 Gamma Distribution Test Data Distribution Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Normal at 5% Significance Level Data appear Statistics Data appear Statistics Data appear Statistics Data appear Statistics Data appear Statistic Data appear St	113	95% Modified-t UCL	1.451			99%	6 Chebyshev	(MVUE) UCL	2.944
Data appear Normal at 5% Significance Level 3.099 Data appear Normal at 5% Significance Level 117	114								- ** .*
Theta Star 0.334	115					.,			
118	116			[Data app	ear Normal	at 5% Signif	icance Level	
118	117								
Adjusted Level of Significance 0.0086 95% CLT UCL 1.35 121	118								
121	119					Nonparam			
222 95% Standard Bootstrap UCL 1.315	120						· · · · · · · · · · · · · · · · · · ·		
Anderson-Darling Test Statistic 0.214 95% Bootstrap+t UCL 1.653 Anderson-Darling 5% Critical Value 0.68 95% Hall's Bootstrap UCL 1.634 125 Kolmogorov-Smirnov Test Statistic 0.197 95% Percentile Bootstrap UCL 1.307 126 Kolmogorov-Smirnov 5% Critical Value 0.358 95% BCA Bootstrap UCL 1.357 127 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Mean, Sd) UCL 1.868 128 97.5% Chebyshev(Mean, Sd) UCL 2.229 129 Assuming Gamma Distribution 99% Chebyshev(Mean, Sd) UCL 2.937 130 95% Approximate Gamma UCL 1.665 131 95% Adjusted Gamma UCL 2.087 132 Potential UCL to Use Use 95% Student's-t UCL 1.443 134 135 SM Bass SM B	121	Adjusted Chi Square Value	15.37						<u> </u>
Anderson-Darling 5% Critical Value 0.68 95% Hall's Bootstrap UCL 1.634 125	122					959			1
Kolmogorov-Smirnov Test Statistic 0.197 95% Percentile Bootstrap UCL 1.307 Kolmogorov-Smirnov 5% Critical Value 0.358 95% BCA Bootstrap UCL 1.357 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Mean, Sd) UCL 1.868 128	7							•	1
126 Kolmogorov-Smirnov 5% Critical Value 0.358 95% BCA Bootstrap UCL 1.357 127 Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Mean, Sd) UCL 1.868 128 97.5% Chebyshev(Mean, Sd) UCL 2.229 129 Assuming Gamma Distribution 99% Chebyshev(Mean, Sd) UCL 2.937 130 95% Approximate Gamma UCL 1.665 131 95% Adjusted Gamma UCL 2.087 132 Potential UCL to Use Use 95% Student's-t UCL 1.443 134 135 SM Bass SM Bas	12							•	1
Data appear Gamma Distributed at 5% Significance Level 95% Chebyshev(Mean, Sd) UCL 1.868	125					95%		·	<u> </u>
128 97.5% Chebyshev(Mean, Sd) UCL 2.229 129	126	Kolmogorov-Smirnov 5% Critical Value	0.358				95% BCA E	300tstrap UCL	1.357
29 Assuming Gamma Distribution 99% Chebyshev(Mean, Sd) UCL 2.937	127	Data appear Gamma Distributed at 5% Significance L	evel .				· · · · · · · · · · · · · · · · · · ·		
29 Assuming Gamma Distribution 99% Chebyshev(Mean, Sd) UCL 2.937	128								
130 95% Approximate Gamma UCL 1.665	129	-				99% C	hebyshev(M	ean, Sd) UCL	2.937
95% Adjusted Gamma UCL 2.087	130	95% Approximate Gamma UCL	1.665						
32	131	95% Adjusted Gamma UCL	2.087						
133 Potential UCL to Use Use 95% Student's-t UCL 1.443	132								
34 35 SM Bass	133	Potential UCL to Use					Use 95% St	udent's-t UCL	1.443
35 SM Bass	134								1
	135 SM	Bass			••••••••••				
	136	,						***************************************	

	A B C D E	F	G H I J K	L
137			Statistics	
138	Number of Valid Observations	i 8	Number of Distinct Observations	3
139				
ا	Raw Statistics		Log-transformed Statistics	
	Minimum	1	Minimum of Log Data	
142	Maximum	1	Maximum of Log Data	
143	Mean		Mean of log Data	
144	Median	<u> </u>	SD of log Data (0.644
145		3.051		
146	Coefficient of Variation			
147	Skewness	0.225		
148				
149	Wasing	Th	ah O Malana in Akin Jawa	
150			nly 8 Values in this data strain methods may be performed on this data set,	
151				
152	uie resulting calculation	S IIIdy HOLDE	e reliable enough to draw conclusions	
153	The literature curenate to use heatest	an methode	on data sets having more than 10-15 observations.	
154	The interactive suggests to use boots to	ap memous	on data sets having more than 10-13 observations.	
155		Relevant Li	CL Statistics	
156	Normal Distribution Test	Neievani O	Lognormal Distribution Test	
157	Shapiro Wilk Test Statistic	-IO 96	Shapiro Wilk Test Statistic (208
158	Shapiro Wilk Critical Value	1	Shapiro Wilk Critical Value (
159	Data appear Normal at 5% Significance Level	10.010	Data appear Lognormal at 5% Significance Level	
160				
16.	Assuming Normal Distribution		Assuming Lognormal Distribution	
163	95% Student's-t UCL	7.813	95% H-UCL	11.49
164	95% UCLs (Adjusted for Skewness)	<u></u>	95% Chebyshev (MVUE) UCL	11.84
165	95% Adjusted-CLT UCL	7.636	97.5% Chebyshev (MVUE) UCL	14.41
166	95% Modified-t UCL	7.828	99% Chebyshev (MVUE) UCL	19.45
167		····		
168	Gamma Distribution Test		Data Distribution	
169	k star (bias corrected)	2.181	Data appear Normal at 5% Significance Level	
170	Theta Star	ļ		
171	nu star	ļ		
172	Approximate Chi Square Value (.05)	L	Nonparametric Statistics	
173	Adjusted Level of Significance		95% CLT UCL 7	
174	Adjusted Chi Square Value	19.88	95% Jackknife UCL 7	
175			95% Standard Bootstrap UCL 7	
176	Anderson-Darling Test Statistic	<u> </u>	95% Bootstrap-t UCL 7	
177	Anderson-Darling 5% Critical Value	1	95% Hall's Bootstrap UCL 7	
178	Kolmogorov-Smirnov Test Statistic	i	95% Percentile Bootstrap UCL 7	
	Kolmogorov-Smirnov 5% Critical Value	<u> </u>	95% BCA Bootstrap UCL 7	
179	Data appear Gamma Distributed at 5% Significance L	Level	95% Chebyshev(Mean, Sd) UCL 1	
_	THE TREE CONTRACTOR OF THE CON	1	97.5% Chebyshev(Mean, Sd) UCL 1	
179 180				
_	Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 1	16.5
_	Assuming Gamma Distribution 95% Approximate Gamma UCL	3	99% Chebyshev(Mean, Sd) UCL 1	16.5
180	Assuming Gamma Distribution	3	99% Chebyshev(Mean, Sd) UCL 1	16.5
183	Assuming Gamma Distribution 95% Approximate Gamma UCL	3	99% Chebyshev(Mean, Sd) UCL 1 Use 95% Student's-t UCL 7	

	A B C D E	F	G H I J K	L
87	R. Bass			
_1				
39 ``		Genera	al Statistics	
" મ્	Number of Valid Observations	9	Number of Distinct Observations	9
92	<u> </u>	<u> </u>		
93	Raw Statistics		Log-transformed Statistics	
94	Minimum	1.4	Minimum of Log Data	0.336
95	Maximum	4.27	Maximum of Log Data	1.452
96	Mean	2.596	Mean of log Data	0.873
97	Median	1.95	SD of log Data	0.424
98	SD	1.113		
99	Coefficient of Variation	0.429		
00	Skewness	0.557		
01				
02				
03			only 9 Values in this data	
04		-	tstrap methods may be performed on this data set,	
05	the resulting calculation	s may not	be reliable enough to draw conclusions	
06	The Baseline and Advance of the Control of the Cont		and data ante basina mana then 40 45 about 1	
07	I he literature suggests to use bootstra	ap method	s on data sets having more than 10-15 observations.	
08		Pelevent	UCL Statistics	
09	Normal Distribution Test	Melevant	Lognormal Distribution Test	
10	Shapiro Wilk Test Statistic	0.861	Shapiro Wilk Test Statistic	በ ጸጸባ
) Shapiro Wilk Critical Value		Shapiro Wilk Critical Value	
<u>.</u>	Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
13		·····		
14 15	Assuming Normal Distribution		Assuming Lognormal Distribution	
16	95% Student's-t UCL	3.285	95% H-UCL	3.621
17	95% UCLs (Adjusted for Skewness)	J	95% Chebyshev (MVUE) UCL	4.206
18	95% Adjusted-CLT UCL	3.279	97.5% Chebyshev (MVUE) UCL	4.905
19	95% Modified-t UCL	3.297	99% Chebyshev (MVUE) UCL	6.277
20		l =		L
21	Gamma Distribution Test		Data Distribution	
22	k star (bias corrected)	4.311	Data appear Normal at 5% Significance Level	
23	Theta Star			
24	nu star			
25	Approximate Chi Square Value (.05)		Nonparametric Statistics	
26	Adjusted Level of Significance		95% CLT UCL	
27	Adjusted Chi Square Value	54.79	95% Jackknife UCL	
28			95% Standard Bootstrap UCL	
29	Anderson-Darling Test Statistic		95% Bootstrap-t UCL	
30	Anderson-Darling 5% Critical Value		95% Hall's Bootstrap UCL	
I.	Kolmogorov-Smirnov Test Statistic		95% Percentile Bootstrap UCL	
	Kolmogorov-Smirnov 5% Critical Value		95% BCA Bootstrap UCL	
<u>3</u> [Data appear Gamma Distributed at 5% Significance L	evel	95% Chebyshev(Mean, Sd) UCL	
4			97.5% Chebyshev(Mean, Sd) UCL	
35	Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.287
1 "	95% Approximate Gamma UCL	3.454		

	Α	В	С	D	E	F	G	Н	1	J	K	L
237			95	% Adjusted (Gamma UCL	3.676						
238												
239			Potential	UCL to Use						Use 95% Stud	dent's-t UCL	3.285
~-~												f,,,,,,
	atfish		·									
242	/											
243						Genera	l Statistics	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		. ,		
244			Numl	ber of Valid (Observations	4			Numbe	er of Distinct O	bservations	4
245												
246												
247					Warning: T	his data set	only has 4 ot	servations!				
248			Dat			•	e and meaning	=		nates!		
249				Ţ	he data set	for variable	Catfish was n	ot processe	dl			
250					,,,,.,							
251			It is sugg	ested to coll	lect at least 8	3 to 10 obse	ervations before	re using the	se statistica	al methods!		
252		If po	ossible, com	pute and co	llect Data Qu	uality Objec	tives (DQO) b	ased samp	e size and	analytical res	ults.	

INNER HARBOR

\vdash	A				_			1		1		\neg		T	/		
111	A	В	c	General UCL S	E Statistics	for Full Dat	G a Sets		<u>H</u>		<u> </u>	Щ	J	<u> </u>	<u> </u>	L!	
2		User Selec	cted Options	Inner Harbor													
3	· · · · · · · · · · · · · · · · · · · ·		From File	M:\Sheboygan	River\5_	Post-Remed	diation\2_S	ampling	Result	s\5_F	ish M	onito	ring\Base	eline Sta	ats\IH\	IH Fish	no o
		Ful	Il Precision	OFF													
•)	Confidence	Coefficient	95%													
6	Number o	f Bootstrap (Operations	2000			,,,,										
7				A			***************************************										
8																	******
9	A. Carp																
10											.,						
11							I Statistics										
12			Numt	er of Valid Obs	ervations	s 8 					Numb	er of	Distinct	Observa	ations	8	
13								*************									
14			Raw S	tatistics		15.5.5				Log-ti	ransfo	me	d Statisti				
15	·····				Minimum							····	Minimur	_			
16					Maximum	3.164							Maximur	n of Log an of log			
17					Median	<u> </u>								D of log			
18						2.812									, Data	1.104	*
19				Coefficient of		}	-										
20					Skewness	1											
21		<u></u>												***************************************			
23																	
23																	
24				٧	Varning:	There are o	only 8 Valu	es in thi	s data								
24			Note: It sho	V ould be noted th	_		-			erform	ned or	this	data se	<u>.</u>			
· 7)				nat even	though boot	strap meth	ods ma	y be pe				data se	t,			
24 2 27)			ould be noted the	nat even t	though boot s may not b	strap meth e reliable e	ods ma enough	y be pe to draw	ono conc	clusio	ns					
2.)	Ţ		ould be noted th	nat even t	though boot s may not b	strap meth e reliable e	ods ma enough	y be pe to draw	ono conc	clusio	ns					
2. 27)	7		ould be noted the	nat even t	though book is may not b	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw	ono conc	clusio	ns					
27 28)	Т	he literature	ould be noted the resulting ca	nat even t	though boot s may not b	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw	e thai	n 10-1	ns I5 ob	servatio	ns.			
2x. 27 28 29 30 31)	T	he literature	the resulting ca suggests to us	nat even i	though boot is may not be ap methods Relevant U	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw	e thai	n 10-1	ns I5 ob	servatio	ns. est		0.0220	
2. 27 28 29 30 31 32)	Т	he literature Normal Dist	suggests to us ribution Test hapiro Wilk Tes	nat even in alculation e bootstr	though boots may not be ap methods Relevant to 10.861	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw	e thai	n 10-1	ns I5 ob Distri	servatio bution T	ns. est Test Sta			
20 27 28 29 30 31 32 33			Normal Dist	the resulting ca suggests to us ribution Test hapiro Wilk Critin	nat even talculation e bootstr t Statistic	though boots may not be ap methods Relevant to 10.861	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon	e thai	n 10-1	ns Ustri Shap	servatio bution T biro Wilk	est Test Sta	Value	0.818	
20 27 28 29 30 31 32 33 34)		Normal Dist	suggests to us ribution Test hapiro Wilk Tes	nat even talculation e bootstr t Statistic	though boots may not be ap methods Relevant to 10.861	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon	e thai	n 10-1	ns Ustri Shap	servatio bution T	est Test Sta	Value	0.818	
2. 27 28 29 30 31 32 33 34 35		Data appe	Normal Dist Si Sr	suggests to us ribution Test hapiro Wilk Test napiro Wilk Critic	nat even i alculation e bootstr t Statistic cal Value	though boots may not be ap methods Relevant to 10.861	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e thai	m 10-1	Distri Shap Shap	bution Tobico Wilkobico Wi	est Test Sta	Value	0.818	
20 27 28 29 30 31 32 33 34 35 36		Data appe	Normal Dist Si Sr	the resulting ca suggests to us ribution Test hapiro Wilk Critin	nat even i alculation e bootstr t Statistic cal Value	though boots may not be ap methods Relevant to 0.861	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e thai	m 10-1	Distri Shap Shap	servatio bution T biro Wilk	est Test Sta	Value Level	0.818	
2. 27 28 29 30 31 32 33 34 35 36 37		Data appe	Normal Dist Si Si sar Normal at	suggests to us ribution Test hapiro Wilk Tes napiro Wilk Critic 5% Significance	nat even i alculation e bootstr t Statistic cal Value ce Level	though boots may not be ap methods Relevant to 0.861	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e thai	n 10-1	Oistri Shap Shap	bution Tobico Wilkobico Wi	est Test Sta Critical ' ificance oution 95% H	Value Level	0.818 17.9	
2. 27 28 29 30 31 32 33 34 35 36 37		Data appe	Normal Dist Si Si ser Normal at	suggests to us ribution Test hapiro Wilk Tes napiro Wilk Critic 5% Significant	t Statistic cal Value ce Level	Relevant U	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e thai	n 10-1 rmal [Distri Shap Shap al at	bution Topico Wilk of Signial Distrib	est Test State Critical Vificance button 95% H (MVUE)	Value Level	0.818 17.9 9.49	
2. 27 28 29 30 31 32 33 34 35 36 37 38		Data appe	Normal Dist Si Si ser Normal at	suggests to us ribution Test hapiro Wilk Critic s Significance mal Distribution 95% Studen	t Statistic cal Value ce Level it's-t UCL ess)	though boots may not be ap methods Relevant U 0.861 0.818	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e thai	n 10-1 rrmal [Distri Shap Shap at at a	bution To biro Wilk biro Wilk of 5% Signi	est Test State Critical ' ificance bution 95% H (MVUE)	Value Level I-UCL UCL	0.818 17.9 9.49 12.1	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39		Data appe	Normal Dist Si Si ser Normal at	suggests to us ribution Test hapiro Wilk Tes napiro Wilk Critic 5% Significant mal Distribution 95% Studen sted for Skewne	t Statistic cal Value ce Level it's-t UCL ess)	though boots may not be ap methods Relevant U 0.861 0.818	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e thai	n 10-1 rrmal [Distri Shap Shap at at a	bution Topico Wilk of Strong Signial Distrite	est Test State Critical ' ificance bution 95% H (MVUE)	Value Level I-UCL UCL	0.818 17.9 9.49 12.1	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39 40		Data appe	Normal Dist Si Si ser Normal at	suggests to us ribution Test hapiro Wilk Tes hapiro Wilk Critic 5% Significant mal Distribution 95% Studen sted for Skewne 95% Adjusted-6	t Statistic cal Value ce Level it's-t UCL ess)	though boots may not be ap methods Relevant U 0.861 0.818	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L	e than	n 10-1 rmal [95% 97.5%	Distri Shap Shap at at a	bution Topico Wilk of Strong Signial Distrite	est Test State Critical ' ificance bution 95% H (MVUE)	Value Level I-UCL UCL	0.818 17.9 9.49 12.1	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39		Data appe	Normal Dist Si Sar Normal at ssuming Norr	suggests to us ribution Test hapiro Wilk Tes hapiro Wilk Critic 5% Significant mal Distribution 95% Studen sted for Skewne 95% Adjusted-6	t Statistic cal Value ce Level nt's-t UCL ess) CLT UCL	though boots may not be ap methods Relevant U 0.861 0.818	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L appea	e thai	n 10-1 mal [g Logi 95% 997.5%	Distril Shap Shap Shap Che Che Che Che	bution Topico Wilk Siro Wilk Signial Distritebyshev	est Test Stance Dution 95% H (MVUE) (MVUE)	Value Level I-UCL) UCL) UCL	0.818 17.9 9.49 12.1	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42		Data appe	Normal Dist Si Sar Normal at ssuming Norr	suggests to us ribution Test hapiro Wilk Tes hapiro Wilk Critic 5% Significance 15% Student 15% Student 15% Adjusted-15% Modificance 15% Katar (bias o	t Statistic cal Value ce Level nt's-t UCL ess) CLT UCL	though bool is may not b ap methods Relevant U 0.861 0.818 5.048 5.381 5.138	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L appea	e thai	n 10-1 mal [g Logi 95% 997.5%	Distril Shap Shap Shap Che Che Che Che	bution Topico Wilk of Signification Signific	est Test Stance Dution 95% H (MVUE) (MVUE)	Value Level I-UCL) UCL) UCL	0.818 17.9 9.49 12.1	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43		Data appe	Normal Dist Si Sar Normal at ssuming Norr	suggests to us ribution Test hapiro Wilk Tes hapiro Wilk Critic 5% Significance 15% Student 15% Student 15% Adjusted-15% Modificance 15% Katar (bias o	t Statistic cal Value ce Level nt's-t UCL ess) CLT UCL ed-t UCL	though boots may not be somethods Relevant U 0.861 0.818 5.048 5.381 5.138	strap meth e reliable e on data se	ods ma enough ets havi	y be pe to draw ng mon L appea	e thai	n 10-1 mal [g Logi 95% 997.5%	Distril Shap Shap Shap Che Che Che Che	bution Topico Wilk of Signification Signific	est Test Stance Dution 95% H (MVUE) (MVUE)	Value Level I-UCL) UCL) UCL	0.818 17.9 9.49 12.1	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43		Data appe	Normal Dist Si Sh sar Normal at ssuming Norm UCLs (Adjust Approximate	suggests to us suggests to us ribution Test hapiro Wilk Tes hapiro Wilk Critic 5% Significance 15% Significance 15% Studen 15% Adjusted-1 15% Modifi 15% Star (bias o	t Statistic cal Value ce Level nt's-t UCL ess) CLT UCL ed-t UCL orrected) heta Star nu star	though boots may not be somethods Relevant U 0.861 0.818 5.048 5.381 5.138 0.929 3.405 14.87 7.17	strap meth e reliable e on data se	ods ma enough ets havi	y be per to drawing more L appea	e than	n 10-1 rmal [95% 97.5% 99%	Distri Shap Shap at at a 6 Che 6 Che 6 Che 10 Che 11 Strill 12 Strill 13 Strill 14 Strill 15 Strill 16 Strill 16 Strill 16 Strill 17 Strill 18 Str	ibution Topico Wilk of Signification Statistic	est Test State Critical Vificance bution 95% H (MVUE) (MVUE) (MVUE)	Value Level UCL UCL UCL UCL	0.818 17.9 9.49 12.1 17.21	
2. 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43		Data appe	Normal Dist Signar Normal at ssuming Normal UCLs (Adjusted Approximate Adjusted Adju	suggests to us ribution Test hapiro Wilk Tes hapiro Wilk Critic 5% Significance 15% Student 15% Adjusted-15% Modifi 15% Kstar (bias o	t Statistic cal Value ce Level nt's-t UCL ess) CLT UCL ed-t UCL orrected) heta Star nu star alue (.05) nificance	though bool is may not be ap methods Relevant U 0.861 0.818 5.048 5.381 5.138 0.929 3.405 14.87 7.17 0.0195	strap meth e reliable e on data se	ods ma enough ets havi	y be per to drawing more L appea	e than	n 10-1 rmal [95% 97.5% 99%	Distri Shap Shap at at a 6 Che 6 Che 6 Che 10 Che 11 Strill 12 Strill 13 Strill 14 Strill 15 Strill 16 Strill 16 Strill 16 Strill 17 Strill 18 Str	ibution Tooling Wilk of Signification 6 Signification 6 Signification 6 Signification 9 Statistic	est Test Sta Critical ' ificance pution 95% H (MVUE) (MVUE)	Value Level J-UCL UCL UCL UCL	0.818 17.9 9.49 12.1 17.21	

	A	ГВ	Тс	Гр	ΙE	F	l G l	Н		, ,	Тк	 ,			
49		<u> </u>	1 - C -	<u> </u>		<u> </u>		п п	95%	Standard B	Bootstrap UCL	4.685			
50			Anden	son-Darling	Test Statistic	0.219		95% Bootstrap-t UC							
51			Anderson-	Darling 5% (Critical Value	0.73		14.73							
21				_	Test Statistic	i		95% Percentile Bootstrap UCL							
	7	K	(olmogorov-S			1				95% BCA B	ootstrap UCL	5.409			
54) Dat	a appear Ga	mma Distrib	uted at 5% S	Significance I	Level			95% Cr	nebyshev(M	ean, Sd) UCL	7.497			
55						[97.5% Ch	nebyshev(M	ean, Sd) UCL	9.373			
56		As	suming Gan	nma Distribu	tion	L			99% Ch	nebyshev(M	ean, Sd) UCL	13.06			
57			95% A	pproximate (Gamma UCL	6.561	·								
58			95	% Adjusted (Gamma UCL	8.012						ļ			
59				***************************************											
60			Potential (JCL to Use		L				Use 95% St	udent's-t UCL	5.048			
61		***************************************	·····			···-	l					ł			
	SM Bass			.,,											
63															
64						Genera	I Statistics		******* .********** ***	** - ** - *					
65		***************************************	Numl	ber of Valid (Observations	8			Numbe	r of Distinct	Observations	8			
66												<u>-</u>			
67			Raw S	tatistics		·····	Log-transformed Statistics								
68					Minimum	1.44		0.365							
69					Maximum	Ì					m of Log Data	1			
70						3.363		Mean of log Data							
71					Median					S	D of log Data	0.376			
72						1.035									
'	\	Coefficient of Variation						***************************************							
<u> </u>	_)				Skewness	-0.824						l			
75															
76															
77			Note: 14 -1	nuld be sets	_		only 8 Values interesting		damed	this d-4					
78					····						ι,				
79				uie resulung	y carculation:	o may not c	e reliable enoi	nAu m alam	Conclusion		······································				
80			The literature	ougacete te	uco bootet-		on data sate 1	hovino me	than 10 15	observati-					
81			ne nærature	suggests to	use Dootstr	ap memods	on data sets I	naving more	eunan IV-15	ouservatio	ris.				
82						Polovost I	ICI Statistics								
83			Normal Dist	ribution Too	•	. Jeievälli (Relevant UCL Statistics								
84					ι Γest Statistic	0 902		Lognormal Distribution Test							
85					Critical Value		Shapiro Wilk Critical Value 0.8								
86		Data				0.010	-	Shapiro Wilk Critical Value Data appear Lognormal at 5% Significance Leve							
87	·····	Data abbe	ear Normal at	Signific	ance Level		ļ	oaus appear	rognormal	at 376 Sign	menice Leve	1 			
88							İ								

ГТ	A I	В	С	D	Е	l F	l G l	Н		$\overline{}$	J	Тк	T L	
89		As	suming Non	nal Distribut	ion	•	<u></u>	Assı	ıming Lo	ogno	rmal Distri	bution		
90				95% Stu	dent's-t UCL	4.056	95% H-UCL 4.648							
91		95%	UCLs (Adju	sted for Ske	wness)	4	95% Chebyshev (MVUE) UCL 5.363							
				95% Adjuste	ed-CLT UCL	3.85	97.5% Chebyshev (MVUE) UCL 6.218							
10%)			95% Mo	dified-t UCL	4.038	99% Chebyshev (MVUE) UCL 7.							
94	<i>J</i>	~~				·								
95			Gamma Dist	ribution Tes	t				Data	a Dis	tribution			
96			,,,,,,	k star (bia	s corrected)	6.017		Data appea	ar Norm	al at	5% Signifi	cance Leve	Ī	
97					Theta Star	0.559								
98					nu star	96.27								
99			Approximat	e Chi Square	e Value (.05)	74.64			Nonpara	met	ric Statistic	:s		
100			Adjus	ted Level of	Significance	0.0195					9	5% CLT UC	L 3.964	
101			Ad	justed Chi S	quare Value	69.83					95% J	ackknife UC	L 4.056	
102	, ,						9	5%	Standard B	ootstrap UC	L 3.922			
103		· 	Anders	0.499					95% Bo	otstrap-t UC	L 3.964			
104			Anderson-I	Darling 5% C	Critical Value	0.715	95% Hall's Bootstrap UCL						L 3.864	
105			Kolmogoro	ov-Smirnov 1	est Statistic	0.22			95	5% P	ercentile B	ootstrap UC	L 3.904	
106		K	olmogorov-S	mirnov 5% C	ritical Value	0.294				9	5% BCA B	ootstrap UC	L 3.873	
107	Data	appear Gar	nma Distribu	ited at 5% S	ignificance	Level			95%	6 Che	ebyshev(M	ean, Sd) UC	L 4.957	
108									97.5%	6 Che	ebyshev(M	ean, Sd) UC	L 5.647	
109		Ass	suming Gam	ma Distribu	tion				99%	6 Che	ebyshev(M	ean, Sd) UC	L 7.002	
110			95% A _l	oproximate C	Gamma UCL	4.337								
111			959	% Adjusted C	Bamma UCL	4.635								
112				**************************************										
۳ ٦			Potential U	JCL to Use		***************************************				U	se 95% Sti	udent's-t UC	L 4.056	
<u>lı.</u> ,)													
115					.,									
116 V	Valleye													
117														
118						Genera	Statistics						Managama and Assessment	
119			Numb	er of Valid C	bservations)	3			Nun	nber	of Distinct	Observation	s 3	
120						= H= = ## -> 3000 -> 000								
121														
122	***************************************						only has 3 ob							
123			Data				e and meaning			tima	tes!		~	
124				Th	ne data set f	or variable \	Valleye was r	ot processe	d!					
125							.,				,			
126							rvations befor							
127		If po	ssible, comp	oute and col	lect Data Qu	ality Object	ives (DQO) b	ased sample	e size ar	nd ar	nalytical re	sults.		

Appendix 5

Fish Tissue Statistical Analysis

t-test, ANOVA, Mann Whitney Analysis
Box and Whisker Plots

t-test, ANOVA, Mann Whitney Analysis

Table A5-1
River Reach Sites Analysis of Means

Statistic	C	arp	Sucker		Small Mouth Bass		Rock Bass		Dace		
Statistic	UR1	UR2	UR1	UR2	UR1	UR2	UR1	UR2	UR1	UR2	
				Upper R	iver	•					
Mean	25.9	14.7	12.4	8.92	13	14.5	6.94	4.27	7.67		
Standard Deviation	21.4	15	5	4.19	7.28	11.1	5.01	2.94	6.85	No Fish	
Count	16	16	8	8	8	8	8	8	6		
t	1.71		1.51		0.32		1.30		-		
Critcal Value at t _{0.1/2}	1.75		1.86		1.86		1.86		Not Applicable		
Significant Difference	No		No		No		No		1		
	· · · · · · · · · · · · · · · · · · ·		•		•		<u> </u>	·			
Statistic	MR1	MR2	MR1	MR2	MR1	MR2	MR1	MR2	MR1	MR2	
				Middle R	iver						
Mean	4.44	Too Few	8.77	3.96	8.75	4.3	Too Form	2.49	9.47	8.51	
Standard Deviation	7.43	1	5.86	2.01	4.94	1.61	Too Few	0.78	4.15	2.25	
Count	8	Fish	7	8	8	8	Fish	8	6	8	
t			2.07		2.42				0.51		
Critcal Value at t _{0,1/2}	Not Applicable		1.86		1.86		Not Ap	plicable	1.86		
Significant Difference	1	1 ''		Yes		Yes		•	No		

Mean and Standard Deviation in mg/Kg

Values in Red exceed the Critical Value and the means for the data sets are significantly different.

Table A5-2
River Reach Sites Analysis of Variance

	White Sucker UR 1/UR 2			White Sucker MR 1/MR 2			Car	p UR 1/UI	R 2	Carp MR 1/MR 2		
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	49.2	1	49.16	86.2	1	86.15	996.7	1	996.68	8.9	1	8.93
SSw	297.8	14	21.27	234.4	13	18.03	6247.9	30	208.26	386.5	7	55.22
SSt	346.9	15		320.6	14		7244.6	31		395.4	8	
F statistic	2.3			4.8	<u> </u>		4.8			0.2		
F _{0.05,1,SSwDF}	4.6	[4.67	1	Ţ	4.17	1		5.59		
Significant Difference	Difference No		Yes			Yes			No			

Values in Red exceed the F Value and the data sets are significantly different.

Table A5-2
River Reach Sites Analysis of Variance

	SM Bass UR 1/UR 2			SM Bass MR 1/MR 2			Rock	Bass UR 1/	UR 2	Longnose Dace MR 1/MR 2		
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	9.8	1	9.80	79.3	1	79.28	28.7	1	28.68	3.2	1	3.16
SSw	1235.5	14	88.25	189.1	14	13.51	236.1	14	16.86	121.3	12	10.11
SSt	1245.3	15		268.4	15		264.8	15		124.5	13	
F statistic	0.1			5.9			1.7			0.3		
F _{0.05,1,SSwDF}	4.6	1		4.6	1		4.6	1	Ī	4.67]	
Significant Difference			Yes			No			No			

Values in Red exceed the F Value and the data sets are significantly different.

Table A5-3
River Reach Analysis of Population

River Reach Sites Mann Whitney Test

UR1	UR2
37.0	34.5
73.1	5.14
1.63	3.18
7.44	7.84
4.77	3.73
14.0	30.2
17.6	9.23
2.08	22.7
53.9	3.55
28.4	1.71
9.48	47.7
29.4	10.5
33.3	1.02
9.55	15.8
55.5	1.39
36.9	37.3

Results in mg/Kg

)

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
16	16	170	0.117926*	0.058963*
	normal approx $z = 1.58293$	0.1134364*	0.0567182*	

^{*}These values are approximate.

Table A5-4
River Reach Analysis of Means

Statistic	Ca	rp	Suc	ker	Small Me	outh Bass	Rock	Bass	Da	ce
Statistic	UR	MR	UR	MR	UR	MR	UR	MR	UR	MR
			Up	per to Mid	dle River					
Mean	20.3	4.1	10.7	6.2	13.7	6.5	5.6	2.5	7.7	8.9
Standard Deviation	19.1	7.0	4.8	4.8	9.1	4.2	4.2	0.7	6.9	3.1
Count	32	9	16	15	16	16	16	9	6	14
t	3.9	95	2.	59	2.	87	2.	86	0.4	3
Critcal Value at t _{0.1/2}	1.	70	1.	75	1.	75	1.	75	1.7	'6
Significant Difference	Y	es	Y	es	Y	es	Y	es	N	0
	Са	rp ·	Suc	ker	Small M	outh Bass	Rock	Bass	Cat	fish
Statistic	MR	LR	MR	LR	MR	LR	MR	LR	MR	LR
			Middle	e River to l	Lower Rive	r				
Mean	4.1	11.3	6.2	4.3	6.5	5.8	2.5	2.6	18.0	13.7
Standard Deviation	7.0	15.2	4.8	0.9	4.2	3.1	0.7	1.1	15.3	10.0
Count	9	8	15	2	16	8	9	9	8	4
t	1.	23	1.	36	0.50		0.17		0.58	
Critcal Value at t _{0.1/2}	1.	83	1.	75	1.75		1.83		1.86	
Significant Difference	N	o	N	lo .	Ŋ	Vo	1	Vo	_ N	0
	Ca	rp	Suc	ker	Small M	outh Bass	Rocl	c Bass	Cat	fish
Statistic	LR	IH	LR	IH	LR	IH	LR	IH	LR	IH
			Lower	River to I	nner Harbo	r				
Mean	11.3	3.2			5.8	3.4	2.6	Too Few	13.7	19.4
Standard Deviation	15.2	2.8	Too Fe	ew Fish	3.1	1.0	1.1	Fish	10.0	0
Count	8	8			8	8	9	1 1811	4	1
t	1.	49			2.	.11	_		1.3	13
Critcal Value at t _{0.1/2}	1.	86	Not Ap	plicable	1.	.86	Not Ap	plicable	2.3	13
Significant Difference	N	lo			Y	'es			N	0

Mean and Standard Deviation in mg/Kg

Values in Red exceed the Critical Value and the means for the data sets are significantly different.

Table A5-5
River Reach Analysis of Variance

	White Sucker UR/MR			Carp UR/MR			Smallmouth Bass UR/MR		
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	154.4	1	154.41	1846.0	1	1846.03	415.9	1	415.92
SSw	524.1	29	18.07	9859.0	39	252.80	1347.5	30	44.92
SSt	678.5	30		11705.1	40		1763.5	31	
F statistic	8.5			7.3			9.3		
F _{0.05,1,SSwDF}	4.18			4.1			4.17		
Significant Difference		Yes			Yes			Yes	

Table A5-5
River Reach Analysis of Variance

	Rock Bass UR/MR			Dace UR/MR			White Sucker MR/LR		
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	54.8	1	54.81	6.6	1	6.56	6.4	1	6.36
SSw	264.4	23	11.50	124.4	18	6.91	321.4	15	21.43
SSt	319.2	24	i i	117.8	19		327.8	16	
F statistic	4.8			0.9			0.3		············
F _{0.05,1,SSwDF}	4.28	1		4.41	1	Ī	4.54	1	
Significant Difference		Yes			No			No	

Table A5-5
River Reach Analysis of Variance

	Carp MR/LR			Smallmouth Bass MR/LR			Rock Bass Bass MR/LR		
Statistic	Statistic SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	219.5	1	219.53	3.1	1	3.07	0.0	1	0.03
SSw	2011.2	15	134.08	333.6	22	15.16	4.9	16	0.31
SSt	2230.7	16		336.6	23		5.0	17	
F statistic	1.6			0.2	<u> </u>		0.1		
F _{0.05,1,SSwDF}	4.54			4.3	1	Ī	4.49		
Significant Difference	· <u></u>	No			No			No	

Table A5-5
River Reach Analysis of Variance

	Catfish MR/LR			White	White Sucker LR/IH			Carp LR/IH		
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square	
SSc	49.0	1	49.00				263.9	1	263.94	
SSw	1937.2	10	193.72	1			1671.1	14	119.36	
SSt	1986.2	11		Species not c	ollected in	a reach; can	1935.0	15		
F statistic	0.3		····	1 '	ot calculate	· · ·	2.2			
F _{0.05,1,SSwDF}	4.96					-	4.6			
Significant Difference	No			1		1		No		

Table A5-5
River Reach Analysis of Variance

	Smallmouth Bass LR/IH			Roc	Rock Bass LR/IH			Catfish LR/IH			Longnose Dace		
Statistic	SS	DF	Mean Square	SS	SS DF Mean Square		SS	DF	Mean Square	SS	DF	Mean Square	
SSc	23.2	1	23.17	1			25.6	1	25.63				
SSw	72.6	14	5.19	1			301.0	3	100.32				
SSt	95.8	15		Species not o	collected in	a reach; can	326.6	4		Species not o	a reach; can		
F statistic	4.5			n n	ot calculate	. 1	0.3		-	not calculate.			
F _{0.05,1,SSwDF}	4.6	7				Ī	10.1						
Significant Difference		No	*****	1		Ī		No	_	1			

Table A5-6
River Reach Analysis of Population

River Reaches Mann Whitney Test

LK	Ш							
Smallmouth Bass								
8.17	1.44							
5.14	2.70							
2.02	4.43							
1.78	3.10							
7.01	4.18							
4.84	4.31							
10.9	3.91							

2.83

Results in mg/Kg

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
8	8	50	0.0649572	0.0324786
	normal approx $z = 1.89038$	0.0587074*	0.0293537*	

6.30

The two samples are not significantly different ($P \ge 0.05$, two-tailed test).

LR	IH						
Catfish							
8.49	19.4						
11.7							
6.37							
28.4							

Results in mg/Kg

)

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)	
4	1	3	0.8	0.4	
	normal approx $z = 0.707107$	0.4795*	0.23975*		

^{*}These values are approximate.

Table A5-7
Fish Species Analysis of Means

Statistic	Ca	тр	Suc	ker	Small Mo	uth Bass	Rock	Bass	Da	ice	Cat	fish	Wall	leye
Statistic	Carp	All*	Sucker	All*	SM Bass	All*	Rock Bass	All*	Dace	All*	Catfish	All*	Walleye	All*
Mean	13.43	7.94	8.25	9.58	8.28	9.69	3.99	10.40	8.54	9.46	15.85	8.98	8.65	9.41
Standard Deviation	17.07	6.87	5.17	11.40	7.08	11.52	3.29	11.28	4.39	11.13	12.96	10.43	5.76	10.89
Count	54	158	33	179	48	164	34	178	20	192	12	200	11	189
t	2.	30	1.0	07	1.0	04	6.3	0	0.	72	1.	80	0.4	10
Significant Difference	Y	es	N	О	N	o	Ye		N	Īo .	Y	es	N	0

Mean and Standard Deviation in mg/Kg

Critcal Value at $t_{0.1/2} = 1.64$

Values in Red exceed the Critical Value and the means for the data sets are significantly different.

* - Excluding the fish species being compared.

Table A5-8
Fish Species Analysis of Variance

	Adı	ılt Carp	/All Fish	Adult	Sucker/A	ll Fish	SM Bass/All Fish		
Source	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	1488.5	1	1488.5	79.8	1	79.8	122.2	1	122.2
SSw	10056.8	214	47.0	452.7	214	2.1	1293.7	214	6.0
SSt	11156.9	215		144.2	215		1559.8	215	
F	31.7			37.7			20.2		
F _{0.05,1,SSwDF}	3.89		Ī	3.89	1		3.89		
Significant Difference		Yes	S		Yes			Yes	

Table A5-8
Fish Species Analysis of Variance

	Rock	Bass/All	Fish	Long No	se Dace/.	All Fish	Adult (Catfish/A	ll Fish	Adult V	Valleye/A	ll Fish
Source			Mean			Mean			Mean			Mean
	SS	DF	Square	SS	DF_	Square	SS	DF	Square	SS	DF	Square
SSc	1308.0	1	1308.0	28.7	1	28.7	702.8	1	702.8	12.4	1	12.4
SSw	557.8	214	2.6	1225.1	214	5.7	3517.1	214	16.4	1715.9	214	8.0
SSt	1477.4	215		865.4	215		3202.7	215		1728.3	215	
F	501.9			5.0			42.8			1.5		
F _{0.05,1,SSwDF}	3.89			3.89	1		3.89]		3.89		
Significant Difference		Yes			Yes			Yes			No	

Table A5-9 Fish Species Analysis of Population

Fish Species Mann Whitney Test

Smallmouth Bass

18.6	21.5	15.2	22.2	7.3	6.1	8.6	4.1
28.9	5.3	14.9	33.5	3.1	6.4	13.5	10.5
14.1	6.0	5.8	4.2	7.5	9.3	18.2	5.0
3.5	7.7	5.5	2.6	3.7	3.1	4.3	4.1
8.2	5.1	2.0	1.8	7.0	4.8	10.9	6.3
1.4	2.7	4.4	3.1	4.2	4.3	3.9	2.8

l Other Spe	ecies						
37.0	73.1	1.6	7.4	4.8	14.0	17.6	2.1
53.9	28.4	9.5	29.4	33.3	9.6	55.5	36.9
34.5	5.1	3.2	7.8	3.7	30.2	9.2	22.7
3.6	1.7	47.7	10.5	1.0	15.8	1.4	37.3
2.1	1.7	1.3	2.5	22.8	1.6	1.3	2.2
1.3	2.5	15.7	0.5	44.9	18.4	4.5	2.0
1.9	3.2	2.5	5.0	9.1	2.3	2.1	0.9
0.2	15.9	16.6	10.3	20.6	10.6	5.7	7.3
12.3	10.8	12.0	5.0	9.4	4.0	16.6	6.0
7.5	3.7	11.8	3.2	19.9	8.8	4.7	9.2
3.2	2.4	3.5	3.5	0.9	6.4	7.0	4.8
5.0	3.7		PER SERVICE OF				
			Smallm	outh Bass			
			Smanne	Juli Dass			
		6.5	5.8	16.8	10.4	7.9	1.2
1.6	5.3	1.0	4.2	8.3	8.7	4.3	3.8
3.0	0.7	2.8	1.4	2.1	1.9	3.5	2.9
3.7	2.3	2.2	1.8	2.0	1.4	4.1	3.3
1.8	1.6	4.3	3.1	17.6	3.2	1.7	3.3
15.1	5.1	17.8	8.4	8.9	7.1	7.1	7.6
6.2	9.6	10.9	11.0	4.9	7.2	9.9	8.5
15.9	49.2	29.8	16.6	6.9	8.7	16.6	0.5
8.5	11.7	6.4	28.4	19.4	16.8	16.3	5.6
13.7	7.9	14.3	6.0	8.4	3.0	1.4	1.7

Results in mg/Kg

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
168	48	4140	0.778912*	0.389456*
	normal approx $z = 0.282819$		0.777316*	0.388658*

^{*}These values are approximate.

Table A5-9
Fish Species Analysis of Population

Fish Species Mann Whitney Test

Dace							
17.0	3.2	1.7	3.3	15.1	5.1	17.8	8.4
8.9	7.1	7.1	7.6	6.2	9.6	10.9	11.0
4.9	7.2	9.9	8.5				

4.9	1.2	9.9	8.3				
All Other Spo	ecies						
37.0	73.1	1.6	7.4	4.8	14.0	17.6	2.1
53.9	28.4	9.5	29.4	33.3	9.6	55.5	36.9
34.5	5.1	3.2	7.8	3.7	30.2	9.2	22.7
3.6	1.7	47.7	10.5	1.0	15.8	1.4	37.3
2.1	1.7	1.3	2.5	22.8	1.6	1.3	2.2
1.3	2.5	15.7	0.5	44.9	18.4	4.5	2.0
1.9	3.2	2.5	5.0	9.1	2.3	2.1	0.9
0.2	15.9	16.6	10.3	20.6	10.6	5.7	7.3
12.3	10.8	12.0	5.0	9.4	4.0	16.6	6.0
7.5	3.7	11.8	3.2	19.9	8.8	4.7	9.2
3.2	2.4	3.5	3.5	0.9	6.4	7.0	4.8
5.0	3.7	18.6	21.5	15.2	22.2	7.3	6.1
8.6	4.1	28.9	5.3	14.9	33.5	3.1	6.4
13.5	10.5	14.1	6.0	5.8	4.2	7.5	9.3
18.2	5.0	3.5	7.7	5.5	2.6	3.7	3.1
4.3	4.1	8.2	5.1	2.0	1.8	7.0	4.8
10.9	6.3	1.4	2.7	4.4	3.1	4.2	4.3
3.9	2.8	6.5	5.8	16.8	10.4	7.9	1.2
1.6	5.3	1.0	4.2	8.3	8.7	4.3	3.8
3.0	0.7	2.8	1.4	2.1	1.9	3.5	2.9
3.7	2.3	2.2	1.8	2.0	1.4	4.1	3.3
1.8	1.6	4.3	3.1				
			Da	ice			
15.9	49.2	29.8	16.6	6.9	8.7	16.6	0.5
8.5	11.7	6.4	28.4	19.4	16.8	16.3	5.6

13.7 Results in mg/Kg

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
196	20	2325	0.17171*	0.085855*
	normal approx $z = 1.37092$		0.1704014*	0.0852007*

14.3

6.0

8.4

3.0

1.4

1.7

7.9

^{*}These values are approximate.

Table A5-9
Fish Species Analysis of Population

Fish Species Mann Whitney Test

Suckers							
15.9	16.6	10.3	20.6	10.6	5.7	7.3	12.3
10.8	12.0	5.0	9.4	4.0	16.6	6.0	7.5
3.7	11.8	3.2	19.9	8.8	4.7	9.2	3.2
2.4	3.5	3.5	0.9	6.4	7.0	4.8	5.0
2.7							

Other Spe	ecies						***************************************
37.0	73.1	1.6	7.4	4.8	14.0	17.6	2.1
53.9	28.4	9.5	29.4	33.3	9.6	55.5	36.9
34.5	5.1	3.2	7.8	3.7	30.2	9.2	22.7
3.6	1.7	47.7	10.5	1.0	15.8	1.4	37.3
2.1	1.7	1.3	2.5	22.8	1.6	1.3	2.2
1.3	2.5	15.7	0.5	44.9	18.4	4.5	2.0
1.9	3.2	2.5	5.0	9.1	2.3	2.1	0.9
0.2							
			1777	6.1			
			White	Suckers			
		10.4		1.5.0	20.0		
		18.6	21.5	15.2	22.2	7.3	6.1
8.6	4.1	28.9	5.3	14.9	33.5	3.1	6.4
13.5	10.5	14.1	6.0	5.8	4.2	7.5	9.3
18.2	5.0	3.5	7.7	5.5	2.6	3.7	3.1
4.3	4.1	8.2	5.1	2.0	1.8	7.0	4.8
10.9	6.3	1.4	2.7	4.4	3.1	4.2	4.3
3.9	2.8	6.5	5.8	16.8	10.4	7.9	1.2
1.6	5.3	1.0	4.2	8.3	8.7	4.3	3.8
3.0	0.7	2.8	1.4	2.1	1.9	3.5	2.9
3.7	2.3	2.2	1.8	2.0	1.4	4.1	3.3
1.8	1.6	4.3	3.1	17.6	3.2	1.7	3.3
15.1	5.1	17.8	8.4	8.9	7.1	7.1	7.6
6.2	9.6	10.9	11.0	4.9	7.2	9.9	8.5
15.9	49.2	29.8	16.6	6.9	8.7	16.6	0.5
8.5	11.7	6.4	28.4	19.4	16.8	16.3	5.6
13.7	7.9	14.3	6.0	8.4	3.0	1.4	1.7

Results in mg/Kg

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
183	33	3358.5	0.306272*	0.153136*
	normal approx $z = 1.02584$		0.304968*	0.152484*

^{*}These values are approximate.

Table A5-10
Baseline and Historical Data Analysis of Means

	Ся	ırp	Suc	ker	Small M	outh Bass	Rock	Bass	Cat	fish
	2000	2008	2002	2008	2002	2008	2004	2008	2004	2008
				Upper Ri	ver 1					
Mean	16.4	25.9	2.7	12.4	2.14	13	3.5	6.94	7.5	e
Standard Deviation	15.32	21.4	0.98	5	0.76	7.28	2.02	5.01	0.566	None
Count	6	16	25	8	11	8	3	8	2	2.
t	1.	15	5.45 4.20 1.62		62					
Critcal Value at t _{0.1/2}	1.	75	1.71		1.	80	1.	86	Not Ap	plicable
Significant Difference	N	lo	Y	es	Y	es	Ŋ	lo .		
				,						
	2004	2008	2004	2008	2004	2008	2004	2008	2004	2008
				Upper Ri						
Mean	12.5	14.7	4.6	8.92	2.7	14.5	0.906	4.27	7.5	None
Standard Deviation	6.36	15	3	4.19	1.31	11.1	0.231	2.94	0.57	
Count	2	16	5	8	6	8	5	8	2	~
t	0.	38	2.	16	2.	98 3.22		.2		
Critcal Value at t _{0.1/2}	1.	75	1.	.86	1.86		1.86		Not Applicable	
Significant Difference		lo .	Y	es	Y	'es	Y	es		
	2004	2008	2004	2008	2004	2008	2004	2008	2004	2008
	2004	2000	2004	Lower R	<u> </u>	2000	2004	2000	2004	2000
Mean	2.32	11.3	2.5	4.31	1.3	5.77	4)	2.6	3.25	13.7
Standard Deviation	1.03	15.2	1.11	0.926	0.93	3.05	None	1.11	0.21	10
Count	5	9	5	2	5	8	Z	8	2	4
t	5.	09	0.	.82	1.	.16			5.	00
Critcal Value at t _{0.1/2}	1.	86	2.	.01	1.	.86	Not Applicable		2.	35
Significant Difference	Y	es	1	Йo	l N	No	1	-	Y	es

Mean and Standard Deviation in mg/Kg

Values in Red exceed the Critical Value and the means for the data sets are significantly different.

Table A5-11
Baseline and Historical Data Analysis of Variance

Statistic	Upper	River 1 Su	ickers	Upper	River 2 Su	ickers	Lower River Suckers		
	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	573.4	1	573.36	57.9	1	57.87	4.5	1	4.45
SSw	197.9	31	6.38	159.1	11	14.47	5.8	5	1.16
SSt	771.3	32		217.0	12		10.2	6	
F Statistic	89.8	Ì	1	4.0		1	3.8		<u> </u>
F _{0.05,1,SSwDF}	4.16		Ţ	4.84	1		6.61	1	
Significant Diffference		Yes			No			No	

Table A5-11
Baseline and Historical Data Analysis of Variance

	Uppe	r River 1 (Carp	Uppe	r River 2 (Carp	Lov	er River C	arp
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	389.4	1	389.40	8.7	1	8.75		_	
SSw	2235.1	20	111.76	610.8	16	38.17			
SSt	1845.7	21		602.0	17		No individua	al historical i	results. Can
F Statistic	3.5			0.2			1 1	ot calculate.	,
F _{0.05,1,SSwDF}	4.35		Γ	4.49					
Significant Diffference		No			No				

Table A5-11
Baseline and Historical Data Analysis of Variance

	Upper River	pper River 1 Small Mouth Bass			2 Small N	Iouth Bass	Lower River Small Mouth Bass		
Statistic	SS	DF	Mean Square	ss	DF	Mean Square	SS	DF	Mean Square
SSc	542.2	1	542.22	476.8	1	476.82	60.2	1	60.17
SSw	377.0	17	22.17	873.0	12	72.75	68.6	11	6.24
SSt	919.2	18		1349.8	13		128.8	12	
F Statistic	24.5			6.6			9.6		
F _{0.05,1,SSwDF}	4.45	1		4.75			4.84	1	
Significant Diffference		Yes			Yes			Yes	

Table A5-11
Baseline and Historical Data Analysis of Variance

	Upper F	River 1 Ro	ck Bass	Upper	River 2 Roo	ck Bass	Lower River Catfish		
Statistic	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	25.9	1	25.88				146.7	1	146.72
SSw	184.0	9	20.44				301.0	4	75.25
SSt	209.9	10		No individua	al historical	results. Can	447.7	5	
F Statistic	1.3			1 r	ot calculate		1.9		
F _{0.05,1,SSwDF}	5.12	1					7.71	1	
Significant Diffference		No		1			•	No	

Table A5-12
Baseline and Historical Data Analysis of Population

Baseline & Historical Mann Whitney Test Upper River 2 Suckers

Historical	Baseline
2.2	10.8
4.3	12.03
2.6	5.04
4.1	9.44
9.7	3.95
	16.6
	5.95
	7.52

Results in mg/Kg

	_	¥1	P (two-	P (one-	
n ₁	n ₂	U	tailed)	tailed)	
n		T T	P (two-	P (one-	
n ₁	n ₂	U	tailed)	tailed)	
8	5	38	0.006216	0.003108	
	normal approx $z = 2.63493$		0.00841546*	0.00420773*	

The two samples are not significantly different ($P \ge 0.05$, two-tailed test).

Lower River Smallmouth Bass

Historical	Baseline
1.7	8.17
2.8	5.14
0.86	2.02
0.93	1.78
0.45	7.01
	4.84
	10.9
	6.30

Results in mg/Kg

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
nı	n ₂	U	P (two- tailed)	P (one- tailed)
8	5	33	0.065268	0.032634
	normal approx $z = 1.90301$		0.0570398*	0.0285199*

Table A5-12
Baseline and Historical Data Analysis of Population

Lower River Catfish

Historical	Baseline
3.4	8.49
3.1	11.7
	6.37
	28.4

Results in mg/Kg

n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
n ₁	n ₂	U	P (two- tailed)	P (one- tailed)
4	2	8	0.1333334	0.0666667
	normal approx $z = 1.85164$		0.0640776*	0.0320388*

Table A5-13
Baseline and Historical Data Analysis of Lipid Normalized Means

	Ся	rp	Suc	ker	Small Me	outh Bass	Rock	Bass	Cat	fish
	2000	2008	2002	2008	2002	2008	2004	2008	2004	2008
				Upper Ri	ver 1					
Mean	1213	937	210	1490	362	2186	703	1083		
Standard Deviation	1579	1325	94	389	188	1866	396	614	No Fish	in 2008
Count	6	16	25	8	11	8	3	8		
t	0.	38	9.	22	2.	75	1.21			
Critcal Value at t _{0.1/2}	1.	75	1.71 1.80		80	1.	86	Not Ap	plicable	
Significant Difference	N	lo	Y	es	Y	es	N	lo		
	2004	2008	2004	2008	2004	2008	2004	2008	2004	2008
				Upper Ri	iver 2	_				
Mean	543	513	289	955	297	1018	183	593	No Fish in 2008	
Standard Deviation	61	283	173	327	135	579	58	236		
Count	2	16	5	8	6	8	5	8		
t	0.	36	4.	.79	3.	.40	4.	69		
Critcal Value at t _{0.1/2}	1.	75	1.	.86	1.86		1.86		Not Applicable	
Significant Difference	N	lo .	Y	es	Y	es	Y	es		
		4000		1 2000	T 2004		2004	2000	2004	2008
	2004	2008	2004	2008	2004	2008	2004	2008	2004	2008
				Lower F		T			T 50	242
Mean	40	252	280	501	212	590			58	242
Standard Deviation	45	198	9	24	167	339	No Fish	in 2004	6	100
Count	5	8	5	2	5	8			2	3
t		.84		7.44	14	1.22				.89
Critcal Value at t _{0.1/2}	1.	86	2.	.01	1.	.86	Not Ap	plicable	2.	35
Significant Difference	Y	es	Y	es .	Y	es			Y	es

Mean and Standard Deviation in mg/Kg

Values in Red exceed the Critical Value and the means for the data sets are significantly different.

Table A5-14
Baseline and Historical Data Analysis of Lipid Normalized Variance

Statistic	Upper River 1 Suckers			Upper l	River 2 Sı	uckers	Lower River Suckers		
	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	9777363.5	1	9777363	1364960.9	1	1364961	69848.3	1	69848.33
SSw	1269848.7	31	40963	867611.0	11	78874	925.0	5	185.00
SSt	11047212.2	32		2232571.9	12		70773.3	6	
F Statistic	238.7		-	17.3		-	377.6		-
F _{0.05,1,SSwDF}	4.16			4.84			6.61		
Significant Diffference		Yes			Yes			Yes	

Table A5-14
Baseline and Historical Data Analysis of Lipid Normalized Variance

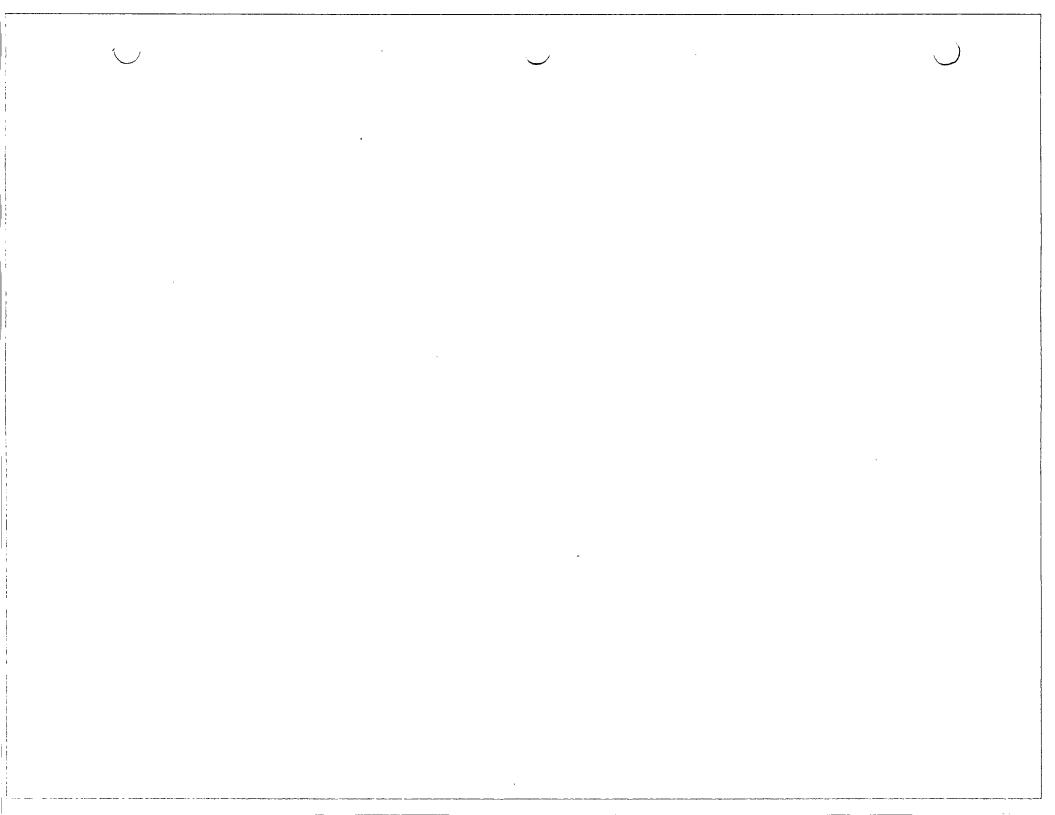
Statistic	Upper River 1 Carp			Upper	River 2	Carp	Lower River Carp				
	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square		
SSc	331468.6	1	331469	1662.9	1	1662.94					
SSw	35474118.1	20	1773706	1518256.1	16	94891.01	1				
SSt	35805586.7	21		1516593.2	17		No individual historical results. Ca				
F Statistic	0.2			0.02] ,	not calculate.			
F _{0.05,1,SSwDF}	4.35			4.49					!		
Significant Diffference		No			No						

Table A5-14
Baseline and Historical Data Analysis of Lipid Normalized Variance

Statistic	Upper River 1 Small Mouth Bass			Upper River	2 Small I	Mouth Bass	Lower River Small Mouth Bass		
	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	15422004.4	1	15422004	1782151.3	1	1782151	60.2	1	60.17
SSw	24722887.9	17	1454288	2440220.2	12	203352	68.6	11	6.24
SSt	40144892.3	18		4222371.5	13		128.8	12	
F Statistic	10.6			8.8			9.6		
F _{0.05,1,SSwDF}	4.45			4.75			4.84	1	
Significant Diffference	Yes			Yes			Yes		

Table A5-14
Baseline and Historical Data Analysis of Lipid Normalized Variance

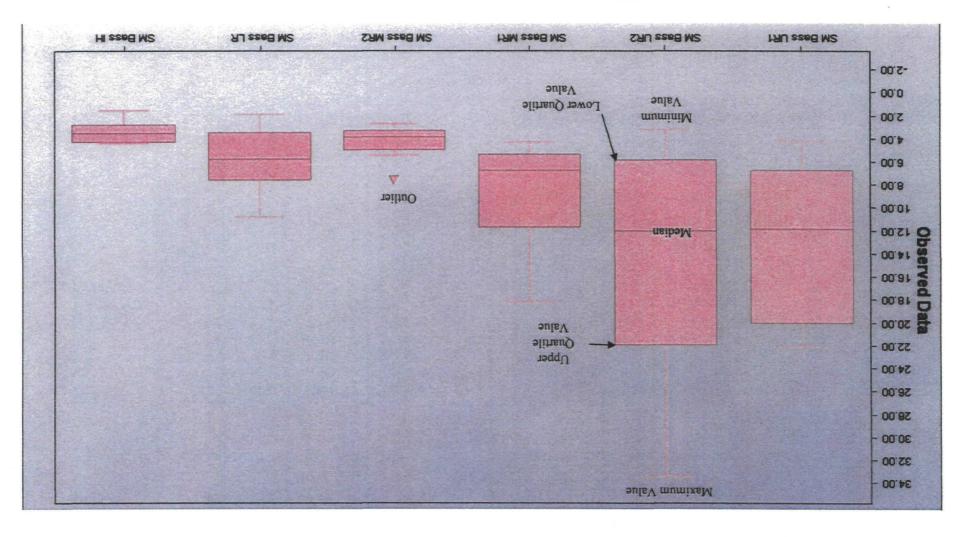
Statistic	Upper River 1 Rock Bass			Upper River 2 Rock Bass			Lower River Catfish		
	SS	DF	Mean Square	SS	DF	Mean Square	SS	DF	Mean Square
SSc	314511.6	1	314512				195072.0	1	195072
SSw	2950858.5	9	327873	1		ľ	520628.3	9	57848
SSt	3265370.1	10	1	No individua	l historical	results. Can	325556.2	10	
F Statistic	1.0			1 n	ot calculate		3.4		
F _{0.05,1,SSwDF}	5.12			1			10.1		
Significant Diffference	No			1				No	



Box and Whisker Plots

)

Example of Box and Whisker Plots



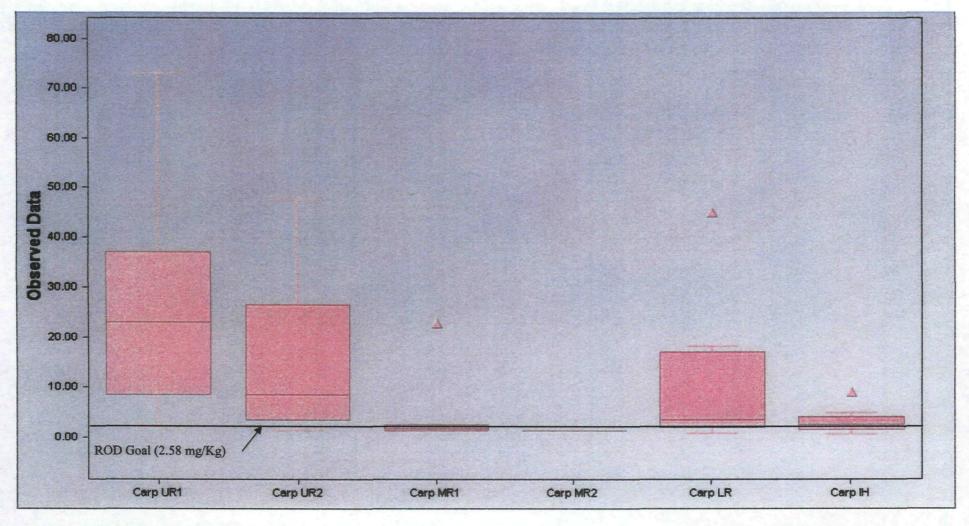
Upper River site 1 and Upper River site 2 Middle River site 1 and Middle River site 2 Lower River and Inner Harbor

URI and UR2 -MRI and MR2 -

- HI bas AJ

Observed Data is PCB concentration in fish tissue in (mg/Kg)

Adult Carp Box and Whisker Plots

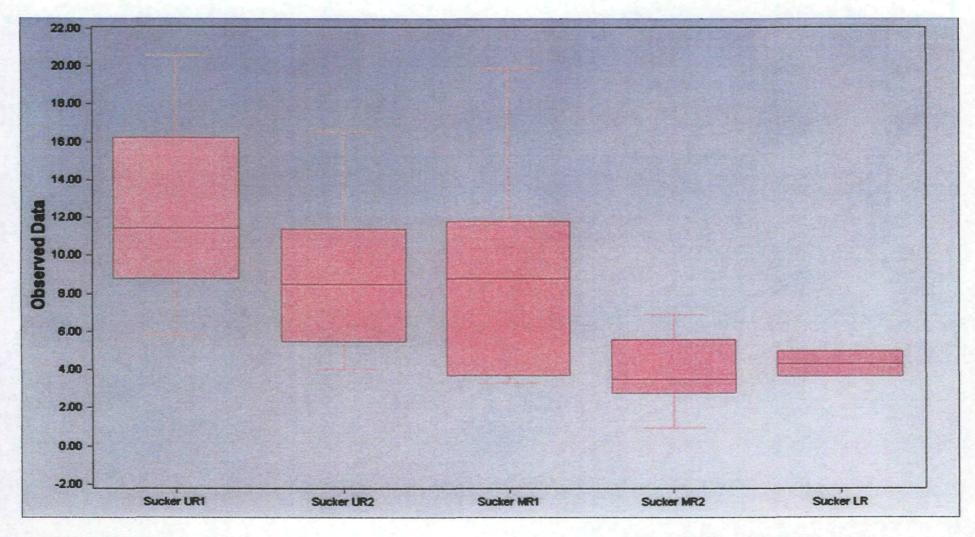


Observed Data is PCB concentration in fish tissue in (mg/Kg). There was only one carp collected in Middle River 2. For Middle River 1, minimum and 1st quartile values too close to differentiate on plot. Maximum and 4th quartile values were equal.

UR1 and UR2 -MR1 and MR2 -

MR1 and MR2 LR and IH - Upper River site 1 and Upper River site 2 Middle River site 1 and Middle River site 2 Lower River and Inner Harbor

Adult Sucker Box and Whisket Plots



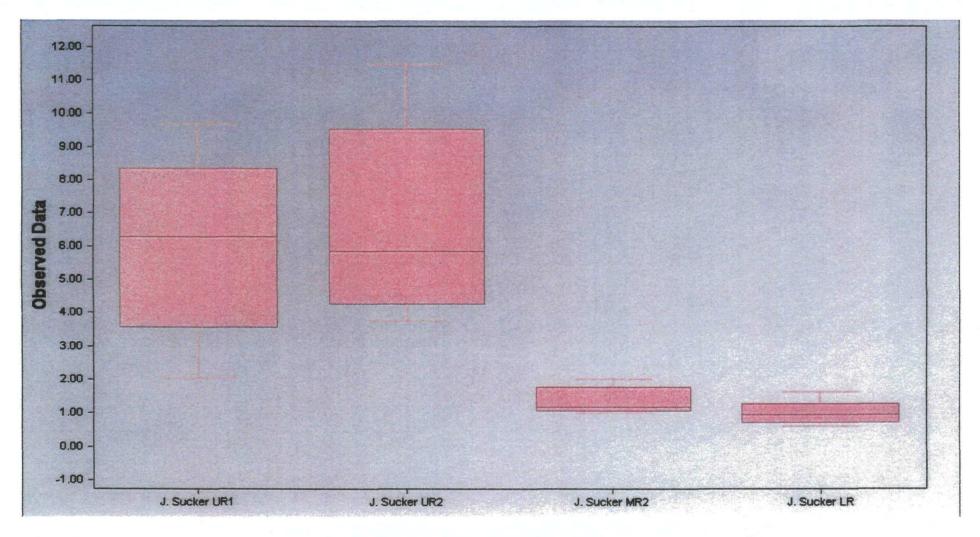
Observed Data is PCB concentration in fish tissue in (mg/Kg). No adult suckers collected in Inner Harbor.
Only two adult suckers collected in Lower River.
No minimum and maximum shown on box plot.

UR1 and UR2 -MR1 and MR2 -

MRI and ME LR - Upper River site 1 and Upper River site 2 Middle River site 1 and Middle River site 2

Lower River

Juvenile Sucker Box and Whisker Plots



Observed Data is PCB concentration in fish tissue in (mg/Kg). No juvenile suckers collected in Middle River 1 and Inner Harbor.

UR1 and UR2 -

Upper River site 1 and Upper River site 2

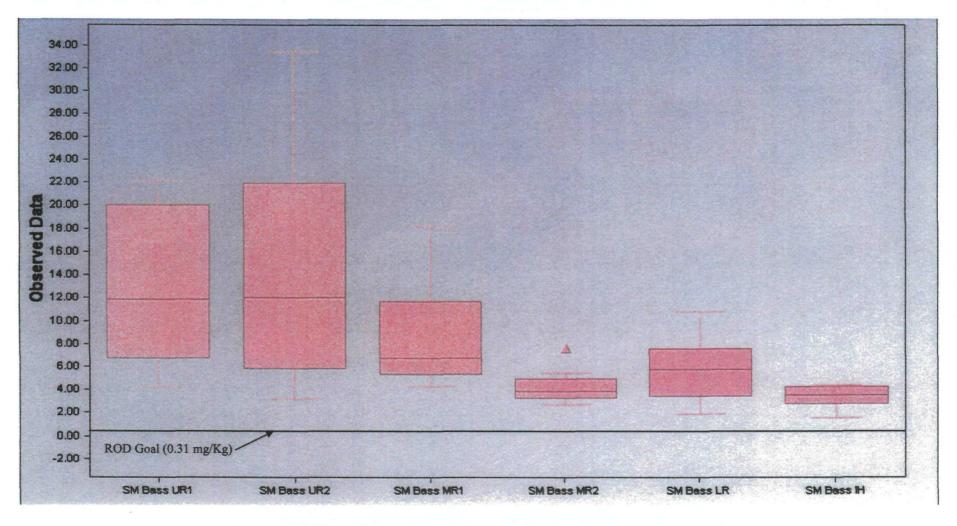
MR2 -

Middle River site 2

LR-

Lower River

Smallmouth Bass Box and Whisker Plots



Observed Data is PCB concentration in fish tissue in (mg/Kg).

Outlier identified during box and whisker plotting not identified during previous outlier analysis.

UR1 and UR2 -

MR1 and MR2 -

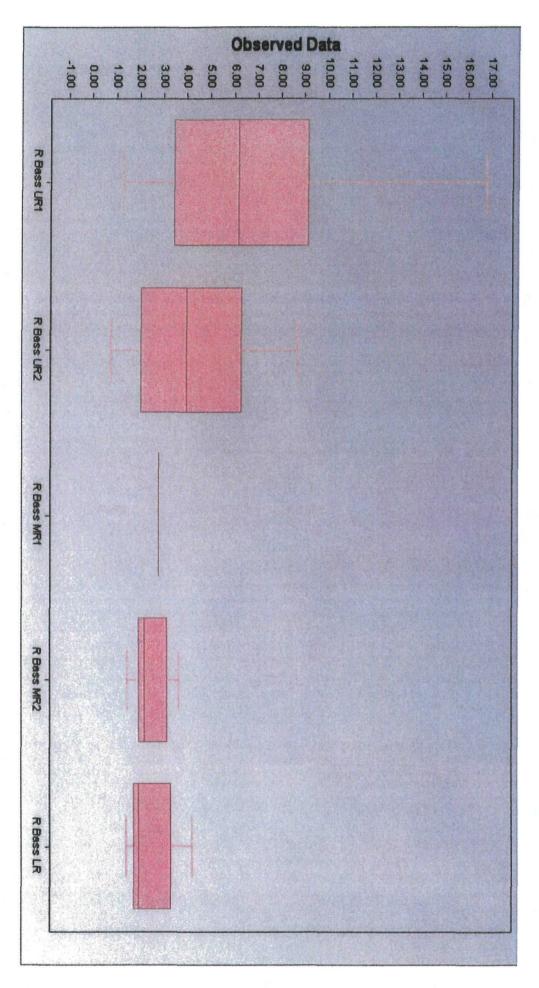
LR and IH -

Upper River site 1 and Upper River site 2

Middle River site 1 and Middle River site 2

Lower River and Inner Harbor

Rock Bass Box and Whisker Plots



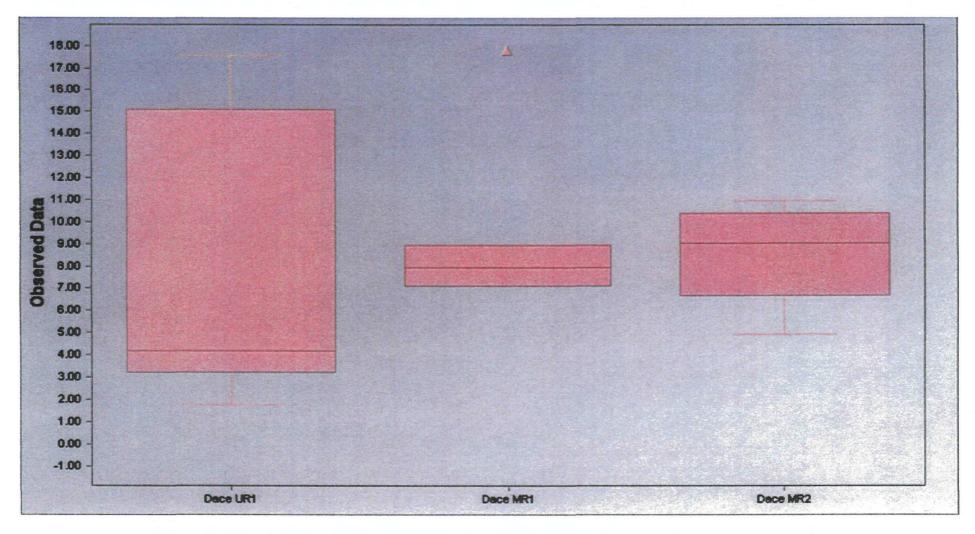
Observed Data is PCB concentration in fish tissue in (mg/Kg). No rock bass collected in Inner Harbor.

There was only one rock bass collected in Middle River 1.

UR1 and UR2 - MR1 and MR2 -

Upper River site 1 and Upper River site 2
Middle River site 1 and Middle River site 2
Lower River

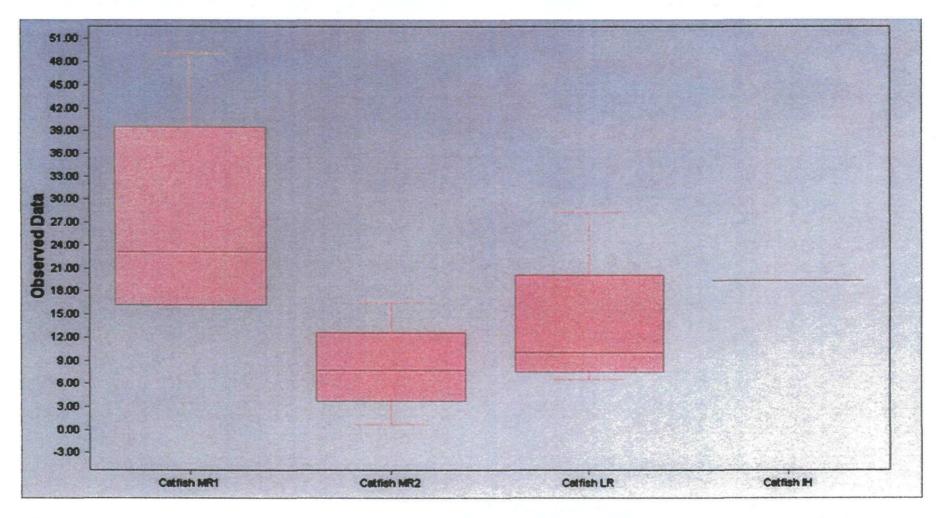
Longnose Dace Box and Whisker Plots



Observed Data is PCB concentration in fish tissue in (mg/Kg). No dace collected in Upper River 2, Lower River, and Inner Harbor. For Middle River 1, the minimum and 1st quartile values were the same.

UR1 -MR1 and MR2 - Upper River site 1
Middle River site 1 and Middle River site 2

Catfish Box and Whisker Plots



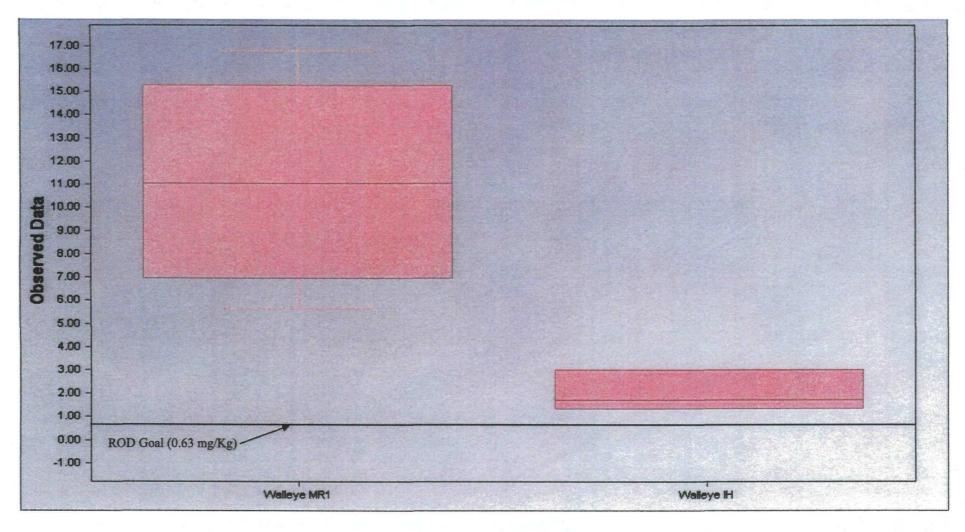
Observed Data is PCB concentration in fish tissue in (mg/Kg). No catfish collected in Upper River sites.

There was only one catfish collected in Inner Harbor.

Only three Lower River catfish plotted. Minimum and 1st quartile values too close to differentiate on plot. Maximum and 4th quartile values were equal.

MR1 and MR2 -LR and IH - Middle River site 1 and Middle River site 2 Lower River and Inner Harbor

Walleye Box and Whisker Plots



Observed Data is PCB concentration in fish tissue in (mg/Kg). No adult walleyes collected in Inner Harbor.

Only three walleye collected in Inner Harbor. Minimum and 1st quartile values too close to differentiate on plot. Maximum and 4th quartile values were equal.

MR1 -IH - Middle River site 1 Inner Harbor Appendix 6

Phase 1 Sampling Requirements

Fish Needs Statistical Analysis Lower Fox River Method (Upper River)

Upper River 1 Species/Location	α	β	MDRD	C/V	N	#
Smallmouth Bass	0.1	0.2	0.5	0.56	6	8
Adult Carp	0.1	0.2	0.5	0.83	12	12
Juvenile Carp	0.1	0.2	0.5	N/A	N/A	16
Adult Suckers	0.1	0.2	0.5	0.4	3	8
Juvenile Suckers	0.1	0.2	0.5	0.47	4	8
Rock Bass	0.1	0.2	0.5	0.72	9	8
Longnose Dace	0.1	0.2	0.5	0.89	14	8
Walleye	0.1	0.2	0.5	N/A	N/A	8
Catfish	0.1	0.2	0.5	N/A	N/A	8

Upper River 2 Species/Location	α	β	MDRD	C/V	N	#
Smallmouth Bass	0.1	0.2	0.5	0.77	11	8
Adult Carp	0.1	0.2	0.5	1.02	19	16
Juvenile Carp	0.1	0.2	0.5	N/A	N/A	16
Adult Suckers	0.1	0.2	0.5	0.47	4	8
Juvenile Suckers	0.1	0.2	0.5	0.43	3	8
Rock Bass	0.1	0.2	0.5	0.69	9	8
Longnose Dace	0.1	0.2	0.5	N/A	N/A	8
Walleye	0.1	0.2	0.5	N/A	N/A	8
Catfish	0.1	0.2	0.5	N/A	N/A	8

Fish Needs Statistical Analysis Lower Fox River Method (Middle River)

Middle River 1 Species/Location	α	β	MDRD	C/V	N	#
Smallmouth Bass	0.1	0.2	0.5	0.56	6	8
Adult Carp	0.1	0.2	0.5	1.67	50	8
Juvenile Carp	0.1	0.2	0.5	N/A	N/A	8
Adult Suckers	0.1	0.2	0.5	0.669	8	8
Juvenile Suckers	0.1	0.2	0.5	0.47	4	8
Rock Bass	0.1	0.2	0.5	N/A	N/A	8
Longnose Dace	0.1	0.2	0.5	0.438	3	8
Walleye	0.1	0.2	0.5	0.42	3	8
Catfish	0.1	0.2	0.5	0.56	6	8

Middle River 2 Species/Location	α	β	MDRD	C/V	N	#
Smallmouth Bass	0.1	0.2	0.5	0.37	2	8
Adult Carp	0.1	0.2	0.5	N/A	N/A	8
Juvenile Carp	0.1	0.2	0.5	N/A	N/A	8
Adult Suckers	0.1	0.2	0.5	0.51	5	8
Juvenile Suckers	0.1	0.2	0.5	0.28	1	8
Rock Bass	0.1	0.2	0.5	0.32	2	8
Longnose Dace	0.1	0.2	0.5	0.26	N/A	8
Walleye	0.1	0.2	0.5	N/A	N/A	8
Catfish	0.1	0.2	0.5	0.81	N/A	8

Fish Needs Statistical Analysis Lower Fox River Method (Lower River Inner Harbor)

Lower River Species/Location	α	β	MDRD	C/V	N	#
Smallmouth Bass	0.1	0.2	0.5	0.53	5	8
Adult Carp	0.1	0.2	0.5	1.35	33	8
Juvenile Carp	0.1	0.2	0.5	N/A	N/A	8
Adult Suckers	0.1	0.2	0.5	0.22	1	8
Juvenile Suckers	0.1	0.2	0.5	0.41	3	8
Rock Bass	0.1	0.2	0.5	0.43	3	8
Longnose Dace	0.1	0.2	0.5	N/A	N/A	8
Walleye	0.1	0.2	0.5	N/A	N/A	9
Catfish	0.1	0.2	0.5	0.73	10	8

Inner Harbor Species/Location	α	β	MDRD	C/V	N	#
Smallmouth Bass	0.1	0.2	0.5	0.31	2	8
Adult Carp	0.1	0.2	0.5	0.89	14	8
Juvenile Carp	0.1	0.2	0.5	N/A	N/A	8
Adult Suckers	0.1	0.2	0.5	N/A	N/A	8
Juvenile Suckers	0.1	0.2	0.5	N/A	N/A	8
Rock Bass	0.1	0.2	0.5	N/A	N/A	9
Longnose Dace	0.1	0.2	0.5	N/A	N/A	8
Walleye	0.1	0.2	0.5	0.42	3	8
Catfish	0.1	0.2	0.5	0.3	2	8

Appendix 7

Foth Multiple Regression Analysis

Foth Infrastructure & Environment, LLC Memorandum

November 11, 2008

TO: Keith Egan, PRS; Ken Aukerman, PRS

CC: Steve Laszewski, Foth

FR: Steve Lehrke, Foth

RE: Analysis of Sheboygan River Fish Tissue Covariates

Background

Fish tissue PCB sample results collected during August and September of 2008 were received by Foth Infrastructure & Environment, LLC (Foth) from PRS for the purpose of conducting a multiple regression analysis. This data is included as Attachment 1. The analysis was performed to develop preliminary conclusions on the effectiveness of including covariates in future statistical tests for determining trends in fish tissue PCB levels. The covariates under consideration are fish length and percent lipids. Including these covariates in future statistical tests could potentially remove additional variation (or noise) from the data and allow a clearer determination to be made of fish tissue PCB concentration trends.

Covariate Approach (Future Analysis)

A statistical method of determining significant changes in fish tissue PCB concentrations between baseline and post-remediation results is to utilize multiple regression analysis. In a multiple regression model, the covariates of fish length and percent lipids could be included to more easily detect changes between the baseline and post-remediation concentration levels. Possible models include a linear model of the form:

$$PCB = B_0 + B_1 Length + B_2 Lipids + B_3 Remediation$$
 (Equation 1)

and an exponential model of the form:

$$PCB = e^{B0 + B1Length + B2Lipids + B3Remediation}$$
. (Equation 2)

In both models *Remediation* is an indicator variable taking on a value of 0 for baseline data and 1 for post-remediation data. A test of the effect of remediation on average PCB concentrations could then be constructed as

$$H_0$$
: $B_3 \ge 0$ v.s. H_4 : $B_3 < 0$.

If the test is significant, that is the coefficient B_3 is significantly less than 0, the conclusion is made that remediation on average has reduced PCB concentration levels.

Results of Current Data

The data included in Attachment 1 was utilized in various multiple regression analyses to verify if there was potential use in including fish length and percent lipids as covariates. Data sets were included for two sites in the Upper River, two sites in the Middle River, one site in the Lower River and one site in the Inner Harbor. Fish Types include adult carp, adult suckers, juvenile suckers, smallmouth bass, rock bass, longnose dace, walleye and catfish.

To do this, linear multiple regression models were developed in the form of:

$$PCB = B_0 + B_1 Length + B_2 Lipids$$
 (Equation 3)

and exponential models in the form of:

$$PCB = e^{B0 + B1Length + B2Lipids}$$
 (Equation 4)

In order for the covariates to be useful in removing noise in the PCB data, they need to "explain" a significant amount of variation in the PCB concentrations. The results of the multiple regression models in equations 3 and 4 provide metrics which are useful in determining how much variation is being explained by the covariates. These metrics include:

 \bullet R²:

Provides a measure of how much variation in the PCB data is being explained by the entire model. Values fall between 0 and 1, with a value of 0 implying no variation is explained and a value of 1 implying all the variation is explained.

• Coefficients B_1 and B_2 :

In the linear model, estimates of these indicate the proportional change in PCB concentrations for a unit change in the corresponding covariate. In the exponential model the estimates indicate the proportional change in the logarithm of the PCB concentrations.

• Standard Errors of B_1 and B_2 estimates:

The standard errors indicate how much variability can be expected in the estimates of B_1 and B_2 .

• p-Level:

The corresponding p-level indicates the probability of a coefficient (B_1 or B_2) being equal to zero. If a coefficient is significantly different from zero, the corresponding factor (*Length* or *Lipids*) has a significant impact on PCB concentrations. A p-level of less than 0.1 indicates the coefficient is significantly different from zero at a 10% error rate, and a p-level of less than 0.05 indicates significance at a 5% error rate.

The results of these metrics are given in Attachment 2 (Table 4). For each data set the model (linear or exponential) was chosen which gave the highest R² value. There are several data sets for which the coefficients corresponding to length and lipids are significantly different from zero, which indicates these factors significantly affect tissue PCB concentrations. The data sets illustrating significance with these factors are as follows:

Upper River 1:

- Adult Carp (length only)
- Adult Suckers (lipids only)
- Longnose Dace (length only)

Upper River 2:

- Adult Carp (length and lipids)
- Adult Suckers (length and lipids)
- Smallmouth Bass (lipids)
- Rock Bass (length and lipids)

Middle River 1:

- Adult Carp (length)
- Walleye (lipids)

Middle River 2:

- Rock Bass (lipids)
- Longnose Dace (length and lipids)

Lower River

- Adult Carp (lipids)
- Juvenile Suckers (length)
- Smallmouth Bass (lipids)
- Rock Bass (lipids)

Inner Harbor

- Adult Carp (lipids)
- Smallmouth Bass (lipids)

Since the coefficients for either length, lipids or both length and lipids were significantly different from zero in the above data sets, these are likely good factors to include in the covariate approach described above.

Note that in the above data sets several coefficients for length were negative (Attachment 2). This was the case for adult suckers and rock bass in the Upper River 2 data set, and smallmouth bass in the Inner Harbor data set. In these three cases length had an inverse effect on tissue PCB concentrations, meaning that the larger fish had lower concentrations.

Conclusions

In summary, fish tissue PCB sample results collected during August and September of 2008 (Attachment 1) were analyzed by multiple regression techniques to determine the usefulness of including covariate measures of fish length and percent lipids in future analysis. The future analysis would use these covariates to reduce additional variation in the data so that conclusions concerning PCB concentration trends can be more readily made. Based on the results, the inclusion of fish length and percent lipids significantly reduced variation noise in several of the data sets as listed above.

Attachment 1

Fish Tissue PCB Data Sets

Upper River Fish Tissue Results - Site 1

Adult Carp Length	Adult Carp % Lipid	Adult Carp PCB	Ln Adult Carp PCB	Adult White Sucker Length	Adult White Sucker % Lipid	Adult White Sucker PCB	Ln Adult White Sucker PCB	Juvenile White Sucker Length	Juvenile White Sucker % Lipid	Juvenile White Sucker PCB	Ln Juvenile White Sucker PCB
24.0			3.6	16.0			2.8	6.00			
21.0			4.3	14.0			2.8	6.00		8.93	
				_							
18.0			0.5	13.0			2.3	5.00		6.08	1.8
19.0	4.45%	7.44	2.0	12.0	1.52%	20.6	3.0	6.00	0.248%	4.85	1.6
15.0	2.19%	4.77	1.6	14.0	0.855%	10.6	2.4	7.00	0.330%	7.76	2.0
16.0	0.625%	14.0	2.6	12.0	0.495%	5.74	1.7	6.00	0.638%	6.51	1.9
20.0	2.50%	17.6	2.9	14.0	0.330%	7.34	2.0	6.50	0.281%	2.28	0.8
19.5	0.340%	2.08	0.7	11.5	0.760%	12.3	2.5	6.00	0.275%	1.99	0.7
25.0	7.49%	53.9	4.0								
24.0	7.55%	28.4	3.3								
21.0	3.44%	9.48	2.2								
23.0	3.02%	29.4	3.4								
25.0	13.7%	33.3	3.5								
25.0	1.01%	9.55	2.3								
22.5	8.70%	55.5	4.0								
23.0	7.03%	36.9	3.6								

Upper River Fish Tissue Results - Site 1

Smallmouth Bass Length	Smallmouth Bass % Lipid	Smallmouth Bass PCB	Ln Smallmouth Bass PCB	Rock Bass Length	*Rock Bass % Lipid	Rock Bass PCB	En Rock Bass PCB	Longnose Dace Length	Longnose Dace % Lipid	Longnose Dace PCB	Longnose Dace PCB
13.0	0.625%	18.6	2.9	8.50		6.53	1.9	3.00	2.77%	17.6	2.9
10.0	0.400%	21.5	3.1	8.00	0.590%	5.82	1.8	2.50	1.24%	3.20	1.2
15.0	1.43%	15.2	2.7	5.50	0.775%	16.8	2.8	2.00	1.14%	1.72	0.5
10.0	0.490%	22.2	3.1	6.00	1.02%	10.4	2.3	2.50	2.30%	3.29	1.2
10.0	0.695%	7.33	2.0	6.00	0.581%	7.91	2.1	3.50	4.00%	15.1	2.7
11.0	0.765%	6.14	1.8	7.00	0.325%	1.22	0.2	2.50	4.40%	5.11	1.6
14.0	1.17%	8.59	2.2	8.00	0.485%	1.57	0.5				
10.0	0.430%	4.09	1.4	5.50	0.619%	5.30	1.7				

Upper River Fish Tissue Results - Site 2

Adult Carp Length	Adult Carp % Lipid	Adult Carp PCB	Ln Adult Carp PCB	Adult White Sucker Length	Adult White Sucker % Lipid	Adult White Sucker PCB	Ln Adult White Sucker PCB	Juvenile White Sucker Length	Juvenile White Sucker % Lipid	Juvenile White Sucker PCB	Ln Juvenile White Sucker PCB
21.0			3.5	11.0			2.4	6.00	0.510%		
23.0				13.0				7.00			
			1.6				2.5		0.450%		
18.0	3.99%	3.18	1.2	14.0	1.14%	5.04	1.6	6.00	0.580%	5.71	1.7
15.0	4.64%	7.84	2.1	9.00	0.715%	9.44	2.2	5.00	0.440%	5.96	1.8
18.0	1.26%	3.73	1.3	10.0	0.355%	3.95	1.4	5.00	0.490%	9.32	2.2
23.5	3.25%	30.2	3.4	13.5	1.28%	16.6	2.8	7.00	0.410%	4.17	1.4
21.5	0.975%	9.23	2.2	14.0	1.12%	5.95	1.8	8.00	0.595%	3.73	1.3
22.5	3.16%	22.7	3.1	13.0	0.840%	7.52	2.0	7.00	0.510%	9.78	2.3
18.0	0.955%	3.55	1.3								
15.0	0.315%	1.71	0.5								
25.0	10.0%	47.7	3.9								
20.5	1.06%	10.5	2.4								
20.0	0.290%	1.02	0.0								
23.0	2.06%	15.8	2.8								
17.5	0.405%	1.39	0.3								
24.5	7.55%	37.3	3.6								

Upper River Fish Tissue Results - Site 2

Smallmouth Bass Length	Smallmouth Bass % Lipid	Smallmouth Bass PCB	Ln Smallmouth Bass PCB	Rock Bass Length	Rock Bass % Lipid	Rock Bass PCB	Ln Rock Bass PCB
11.0	1.78%	28.9	3.4	9.00	0.405%	1.04	0.0
13.0	0.775%	5.34	1.7	8.00	0.670%	4.24	1.4
11.0	1.16%	14.9	2.7	6.00	0.980%	8.25	2.1
12.0	1.67%	33.5	3.5	7.00	1.20%	8.72	2.2
13.0	1.26%	3.12	1.1	8.00	0.470%	4.32	1.5
10.0	0.970%	6.41	1.9	8.00	0.705%	3.78	1.3
10.0	1.69%	13.5	2.6	8.00	0.580%	3.04	1.1
10.0	1.29%	10.5	2.4	8.00	0.240%	0.739	-0.3

Adult Carp	Adult Carp	Adult Carp	Ln Adult	Adult White Sucker	Adult White Sucker %		Ln Adult White Sucker	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Ln Smallmouth Bass
Length	% Lipid	PCB	Carp PCB	Length	Lipid	Adult White Sucker PCB	PCB	Length	% Lipid	PCB	PCB
16.0	1.22%	2.06	0.7	16.0	0.870%	3.72	1.3	13.0	1.37%	14.1	1 2.6
16.0	0.770%	1.71	0.5	15.0	1.30%	11.8	2.5	15.0	2.27%	6.04	1.8
17.0	0.390%	1.33	0.3	10.0	0.740%	3.24	1.2	14.0	1.09%	5.77	7 1.8
17.0	3.21%	2.51	0.9	16.0	0.795%	19.9	3.0	14.0	0.815%	4.20	1.4
15.5	0.845%	1.62	0.5	16.0	1.50%	8.79	2.2	14.5	0.765%	7.46	2.0
16.0	1.17%	1.28	0.2	14.0	0.705%	4.68	1.5	12.0	0.680%	9.29	2.2
17.5	1.14%	2.21	0.8	16.0	1.01%	9.23	2.2	15.0	1.30%	18.2	2.9
20.5	3.16%	22.8	3.1					11.0	0.830%	4.97	7 1.6

Rock Bass Length	Rock Bass % Lipid	Rock Bass PCB	Ln Rock Bass PCB	Longnose Dace Length	Longnose Dace % Lipid	Longnose Dace PCB	Ln Longnose Dace PCB	Channel Catfish Length	Channel Catfish % Lipid	Channel Catfish PCB	Ln Channel Catfish PCB	Walleye Length	Walleye % Lipid	Walleye PCB	Walleye PCB
7.00	0.810%	2.79	1.0	4.00		17.8	2.9	21.0		15.9		21.0		16.8	
				3.50	2.08%	8.35	2.1	22.0	12.6%	49.2	2 3.9	19.5	2.11%	16.3	2.1
				2.00	3.64%	8.92	2.2	19.0	6.34%	29.8	3.4	12.5	0.595%	5.58	1.
				2.50	4.84%	7.08	2.0	20.0	5.27%	16.6	5 2.8	16.0	1.52%	13.7	2.
				2.00	2.70%	7.10	2.0					16.0	0.695%	7.93	2.
				2.00	3.09%	7.56	2.0					17.5	1.61%	14.3	2.
												13.0	0.465%	6.03	1.
												15.5	1.00%	8.41	2.

Adult Carp Adult Carp Length % Lipid		Adult Carp PCB	Adult White Sucker Length	Adult White Sucker %	Adult White Sucker PCB	Ln Adult White Sucker PCB	Juvenile White Sucker Length	Juvenile White Sucker % Lipid	Juvenile White Sucker PCB	Ln Juvenile White Sucke
	70 EIPIG		20.08	cibio	Addit Willie Schol CD			E-p		
19.0	0.730%	1.27	14.5	0.200%	3.24	1.2	8.00	0.480%	2.03	3 0.
			14.5	0.170%	2.37	0.9	8.00	0.400%	1.20	0
			14.0	0.520%	3.51	1.3	8.00	0.740%	1.76	j 0.
			16.0	0.715%	3.48	1.2	8.00	0.575%	1.13	3 0.
			14.0	0.150%	0.925	-0.1	8.00	0.270%	0.980	0.
			16.0	1.23%	6.36	1.9	8.00	0.557%	1.08	3 0
			15.0	0.585%	6.98	1,9	6.00	0.455%	1.40) (
			13.6	1 2694	4 92	1.6				

Smallmouth Bass Length	Smallmouth Bass % Lipid	Smallmouth Bass PCB	Ln Smallmouth Bass PCB	Rock Bass Length	Rock Bass % Lipid	Rock Bass PCB	Ln Rock Bass PCB	Longnose Dace Length	Longnose Dace % Lipid	Longnose Dace PCB	Ln Longnose Dace PCB	Channel Catfish Length	Channel Catfish % Lipid	Channel Catfish PCB	Channel Catfish
17.0	0.875%	3.53	1.3	7.00	0.480%	1.42	0.4	3.50	2.84%	6.20	1.8	19.0	4.21%	6.90	1.9
14.5	1.09%	7.65	2.0	7.00	0.593%	2.09	0.7	3.50	5.02%	9.60	2.3	22.0	6.01%	8.68	2.2
12.0	2.00%	5.54	1.7	7.00	1.24%	1.88	0.6	3.50	6.08%	10.9	2.4	22.0	3.45%	16.6	2.8
11.0	1.06%	2.64	1.0	6.50	1.80%	3.47	1.2	4.00	5.50%	11.0	2.4	17.0	3.49%	0.532	-0.6
11.5	1.12%	3.65	1.3	5.50	1.02%	2.86	1.1	2.00	2.33%	4.86	1.6				
11.0	1.09%	3.08	1.1	6.00	1.30%	3.70	1.3	2.50	5.09%	7.17	2.0				
10.0	1.30%	4.28	1.5	6.00	0.583%	2.27	0.8	3.50	4.13%	9.86	2.3				
12.0	1.26%	4.05	1.4	8.00	0.495%	2.20	0.8	3.00	5.74%	8.47	2.1				

Lower River Fish Tissue Results

Adult Carp Length	Adult Carp % Lipid	Adult Carp PCB	Ln Adult Carp PCB	Adult White Sucker Length	Adult White Sucker %	Adult White Sucker PCB	Juvenile White Sucker Length	Juvenile White Sucker % Lipid	Juvenile White Sucker PCB	Ln Juvenile White Sucker PCB			
	 												
17.5	2.455%	2.52	0.9	12.5	1.0259	6 4.96	7.00	0.140%	1.27	0.2			
24.5	2.69%	15.7	2.8	13.5	0.7059	6 3.65	8.00	0.205%	1.64	0.5			
21.0	5.51%	0.458	-0.8				6.50	0.245%	0.713	-0.3			
17.5	9.03%	44.9	3.8				5.00	0.094%	0.587	-0.5			
24.0	6.40%	18.4	2.9				7.00	0.405%	0.967	0.0			
24.0	3.63%	4.46	1.5										
18.0	0.825%	1.97	0.7										
19.5	1.07%	1.89	0.6										

Lower River Fish Tissue Results

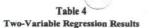
Smallmouth Bass Length	Smallmouth Bass % Lipid	Smallmouth Bass PCB	Ln Smallmouth Bass PCB	Rock Bass Length	Rock Bass % Lipid	Rock Bass PCB	Ln Rock Bass PCB	Channel Catfish Length	Channel Catfish % Lipid	Channel Catfish PCB	Channel Catfish
10.0	1.19%	8.17		7.00		1.76	0.6	19.0	· ·- ·- ·- ·- ·- ·	8.49	
10.5	0.380%	5.14	1.6	6.50	0.410%	1.95	0.7	21.0	4.34%	11.7	2.
13.0	0.650%	2.02	0.7	5.50	0.283%	1.40	0.3	20.0	4.98%	6.37	1.
10.0	0.685%	1.78	0.6	5.00	0.982%	4.11	1.4	17.0	7.81%	28.4	3.
12.0	1.50%	7.01	1.9	6.50	0.980%	3.33	1.2				
11.0	0.915%	4.84	1.6	6.50	0.445%	1.84	0.6				
12.0	2.13%	10.9	2.4	6.00	0.393%	1.63	0.5		•		
10.5	1.05%	6.30	1.8	7.00	0.915%	4.27	1.5				
				6.50	0.300%	3.07	1.1				

Inner Harbor Fish Tissue Results

Adult Carp Length	Adult Carp % Lipid	Adult Carp PCB	Ln Adult Carp PCB	Smallmouth Bass Length	Smallmouth Bass % Lipid	Smallmouth Bass PCB	Ln Smallmouth Bass PCB	Channel Catfish Length	Channel Catfish % Lipid	Channel Catfish PCB	Walleye Length	Walleye % Lipid	Walleye PCB	Walleye PCB
21.0	3.83%	9.14	2.2	15.0	0.680%	1.44	0.4	20.5	12.2%	19.4	21.0	3.71%	3.00	1.1
23.0	1.91%	3.21	1.2	14.0	0.855%	2.70	1.0				21.0	2.71%	1.36	0.3
16.5	2.52%	2.46	0.9	12.0	0.935%	4.43	1.5				22.0	1.72%	1.74	0.6
17.0	3.03%	5.02	1.6	13.0	1.00%	3.10	1.1							
18.5	4.04%	2.30	0.8	11.5	0.980%	4.18	1.4							
16.5	4.06%	2.05	0.7	11.0	1.13%	4.31	1.5							
18.5	1.29%	0.890	-0.1	14.0	1.58%	3.91	1.4							
19.0	0.630%	0.243	-1.4	17.0	1.77%	2.83	1.0							

Attachment 2

Regression Analysis Summary



n l	St. d. d.	Adult	Carp	Adult	Suckers	Juvenile	Suckers	Smallme	outh Bass	Rock	Bass	Longno	se Dace	Wal	lleye	Cat	fish
Reach	Statistic	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids	Length	Lipids
	N	1	6	8			8		8		8		6		0		0
	\mathbb{R}^2	0.39		0.91		0.	02	0.	.20	0.	53	0.	85		-	-	
Upper River 1	Coefficient	0.195	4.59	-0.485	1083.66	-0.036	57.48	3.137	-1911.86	-0.876	1344.79	1.503	8.67	-	-	-	-
Opper raver r	Standard Error	0.093	8.24	0.458	150.04	0.490	184.79	3.008	1690.26	1.548	870.67	0.507	19.21	-	-	-	-
	p (2-tail)	0.056	0.587	0.338	0.001	0.944	0.768	0.345	0.309	0.596	0.183	0.059	0.682	-	-	-	-
	Model	Exponential		Lir	near	Expo	nential	Lin	near	Lir	ear	Expor	nential		-		-
	N	16			8		8		8		3	(0	()	0	
	R ²	0.88		0.69		0.	09	0.	.59	0.95		-				-	
Upper River 2	Coefficient	1.925	341.85	-0.224	191.41	-0.072	-136.27	1.033	2442.65	-1.153	645.16		-	-	-	-	-
Opper Idver 2	Standard Error	0.517	55.57	0.096	57.33	0.180	291.98	2.564	910.63	0.514	146.26	-	-	-	-	-	-
	p (2-tail)	0.003	0.000	0.067	0.021	0.707	0.660	0.704	0.044	0.075	0.007	-	-	-	-	-	-
	Model	Linear		Exponential		Expo	nential	Li	near	Lir	near		-		-		-
	N	8		7		1	0		8		1	(6		8		4
	R ²	0.88		0.	0.37 -		-	0.	.05			0.	77	0.96		0.96	
Middle River 1	Coefficient	0.445	20.95	0.159	33.50	-	-	0.655	50.73	-	-	2.716	140.90	0.017	635.96	-1.850	436.13
Middle River 1	Standard Error	0.123	18.07	0.131	96.16	-	-	1.731	481.56	-	-	1.428	89.31	0.399	165.11	3.011	102.35
	p (2-tail)	0.015	0.299	0.294	0.745	-	-	0.721	0.920	-	-	0.153	0.213	0.967	0.012	0.649	0.147
	Model	Exponential		Expo	nential		-	Liı	near		-	Lir	near	Lir	near	Lin	near
	N		1	8			7		8		8		8	(0		4
	R ²			0.53		0.	25	0.	.37	0.	62	0.91				0.97	
Middle River 2	Coefficient	-	-	0.615	265.92	-0.054	89.09	0.072	57.54	-0.299	102.52	0.238	12.56	-	-	3.040	-298.64
Middle River 2	Standard Error	-	-	0.680	134.30	0.155	79.19	0.056	37.53	0.297	48.80	0.068	3.23	-	-	0.491	100.24
	p (2-tail)	-	-	0.407	0.105	0.746	0.324	0.255	0.186	0.360	0.090	0.017	0.012	-	-	0.102	0.206
	Model		-	Linear		Expo	nential	Exponential		Linear		Exponential		-		Linear	
	N		8	2			5		8		9		0	(0		4
	R ²	0.	64		-	0.	93	0.	.76	0.	67		-		-	0.	86
Lower River	Coefficient	-0.639	425.64	٠.	-	0.414	-145.70	-0.710	506.71	0.022	311.03	-	-	-	-	-0.508	499.45
DOWN TUVE	Standard Error	1.341	144.76	-	-	0.083	75.92	0.635	125.95	0.392	89.06	-	-	-	-	4.001	400.02
	p (2-tail)	0.654	0.032	-	-	0.038	0.195	0.315	0.010	0.957	0.013	-	-	-	-	0.920	0.430
	Model	Lir	near		-	Lir	near	Li	near	Lir	near		-		-	Lir	near
	N		8		0		0		8		0	(0		3	1	
	R ²	0.	64		-		-	0.	.90		-	-			-	-	
Inner Harbor	Coefficient	0.165	67.67	-	-	-	-	-0.533	196.02	-	-	-	-	-		-	-
annou attitoti	Standard Error	0.133	23.19	-	-	-	-	0.081	43.76	-	-	-	-	-		-	
	p (2-tail)	0.269	0.033	-	-	-		0.001	0.007	-	-	-	-	-	-	-	-
	Model	Expor	nential		-		-	Li	near		-		-		-	-	

p<0.05 Signicance level is below 0.05

0.05<p<0.1 Signicance level is greater than 0.05 and less than 0.1

Note: p-Level indicates the probability of the coefficient being equal to zero. Lower values of p indicate higher probabilities that the factors of length or percent lipids significantly affect fish tissue PCB concentrations.